

3.0 RECOMMENDATIONS

The five guiding principles described in the preceding section define the vision of the San Diego River Park. The recommendations that follow describe general and specific strategies for achieving the intent of those principles. These recommendations address the health of the river, the river habitat, encouragement of human recreational use while understanding and appreciating the river's history and its environs. The recommendations also address the river as an amenity for economic development and how development should be reoriented to the river as a means of celebrating and creating awareness and providing identity for the San Diego River Park.

It is important to note that while each recommendation fits into the vision for the river, no single recommendation is meant to address every location or every situation along the length of the river corridor. The master plan's single overarching recommendation is one of flexibility; seeking and pursuing opportunities as they arise with property owners to implement the master plan's vision, while the general recommendations focus on the six reaches of the river: Estuary, Lower Valley, Confluence, Upper Valley, Gorge and Plateau (areas of the river defined by different topographic characteristics).

3.1 GENERAL RECOMMENDATIONS FOR THE ENTIRE RIVER

3.1.1 RESTORE AND MAINTAIN A HEALTHY RIVER SYSTEM

Human activity from mining and for flood control has pushed and squeezed the river. This has resulted in constrictions, channelization and ponds. The San Diego River Park should look for opportunities to separate river flow from ponds, remove river constrictions, and broaden the width of the river's meander belt (that portion of the flood plain in which the river alters its course as a result of a major flood event) to allow the necessary width for meandering and braiding. These improvements will result in a longer river, which will, in turn, expand riparian habitat and improve water quality through the increased duration of water contact with soil and vegetation.

RECOMMENDATIONS

- A. Augment flows to the river periodically.
- B. Remove / circumvent obstacles that impede flow.
- C. Remove invasive vegetation species.
- D. Encourage the growth of appropriate native riparian and upland vegetation.
- E. Rehabilitate the channel to encourage meander and braiding.
- F. Expand the river's recharge area.
- G. Adopt programs to reduce/remove non-point source loads.
- H. Incorporate hydrology and water quality considerations in all future planning and guidance documents and monitor water quality following implementation.



Restore the health of the river by improving flow, increasing length and meander



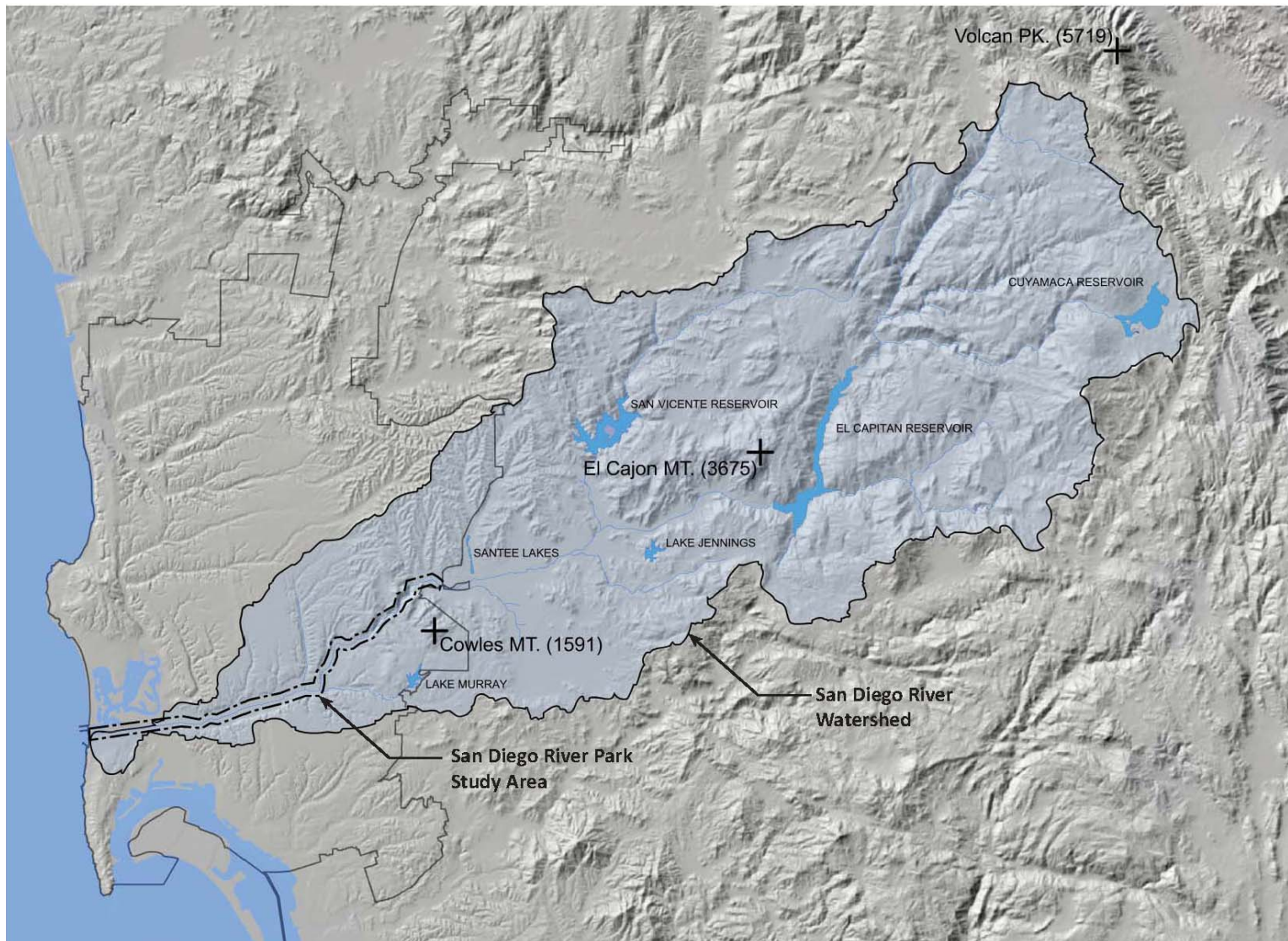


Figure 3. Regional Watershed Context

A. Augment Flows to the River Periodically

Although the pre-disturbed condition of the river was one of ephemeral flows (dry during certain times of the year), the persistent condition is now perennial flows (at least some flow all year long). It is unlikely that flow in the river will be dramatically augmented by natural or non-accidental means. Rather, the extreme demand for a consistent water supply for human use and increasing attention to water efficiency make it more likely that flow in the river will continue to diminish during the dry season. The result of reverting to an ephemeral, or semi-ephemeral system, whether through conservation or conscious design, would be a more barren riparian corridor supporting less biodiversity than present conditions.

The existing perennial flow supports a relatively abundant riparian biological community, and for this reason, the flow should be maintained to some degree. The river's perennial flow is most likely the result of return flow from urban and suburban activities, such as irrigation. The flow is also augmented by some contribution from groundwater sources. The relative contribution from each of these sources is not well understood at this time and will require further investigation. Means to augment the flow should also be investigated; reclaimed wastewater might be a possible source for the augmentation, as would water purchased for release. Regardless of source, the water should closely mimic existing river conditions in measures such as temperature and salinity, and augmented flow should occur periodically, to mimic historic patterns of flow. These seasonal pulse flows also offer the opportunity for sediment transport and would create disturbance/recovery cycles for ecosystems. The potential to augment flows should be fully explored with the Padre Dam Municipal Water District and Regional Water Quality Control Board.

B. Remove/Circumvent Obstacles that Impede Flow

Numerous impediments exist in the river channel and in most of the streams and creeks that are tributary to the channel. These disconnects include ponds, lakes, culverts, roads, and dams. These elements segment habitat, disrupt water flow and create barriers for species movement. The flow of the river is inadequate to sufficiently flush the ponds, leading them to collect into standing pools, particularly where historic gravel mining has removed material from the river channel. The relatively shallow pools and minimal flow lead to an increase in water temperature, promoting algae and macrophyte growth which are both serious issues for riparian systems. The still water also promotes a deposition of sediments resulting in downstream deprivation of sediment load.

Planning efforts that encourage the removal and/or circumvention of impediments to improve flow characteristics and reconnect habitat fragments should be continued. However, the water volume, pond depth and the flow conditions of the river in various reaches will affect the specific conditions of each pond. As the river park and adjacent land is designed and developed, each pond should be studied specifically to create the best and most appropriate hybrid that is most beneficial to improving the water quality of the river, expanding native plant communities and adding value to adjacent development. While the ponds have a negative effect on the hydrology of the river, they offer passive recreation opportunities for fishing, non-motorized boating, birding and other activities as approved by the Federal and State Resource Agencies. It is beneficial to the river to separate the channel from the ponds, but with aeration and other treatments so the ponds can remain as assets to the river park.



Historic gravel mining has resulted in numerous ponds



Overhanging native vegetation shades and cools the river

C. Remove Invasive Vegetation Species

The presence of dense, invasive vegetation results in an impediment to flow. Invasive species also result in dramatically increased evapotranspiration of water that would otherwise remain in the channel or be used by more productive and beneficial species. In an effort to reduce flow impediments and better utilize the limited water quantity in the channel, efforts should be made to eradicate invasive species of plants throughout the watershed.

D. Encourage the Growth of Appropriate Native Riparian and Upland Vegetation

Appropriate and continuous native riparian vegetation has direct benefits to hydrology and water quality. Continuous native vegetation communities from upland canyons and slopes to the riparian river valley create conditions needed to encourage wildlife to move between the canyons and the river. Best management practices should be implemented to encourage the propagation of existing native species. Areas where invasive species have been removed should be re-vegetated with appropriate native species.

Less-dense, native vegetation will cause significantly fewer circulation problems and require less water than invasive species. Additionally, a variety of a native species may be used to more effectively “cleanse” urban runoff through nutrient uptake. By spreading the area of contact of the river and riverbed, groundwater infiltration can be increased. When combined with vegetation, pollutant filtration and removal can be increased. In certain situations, contaminated groundwater can be treated through phyto-remediation, or biological filtration through uptake. Such an approach would require careful study and should not displace native habitat in the corridor.



Arundo Donax (Giant Reed) has invaded many sections of the river

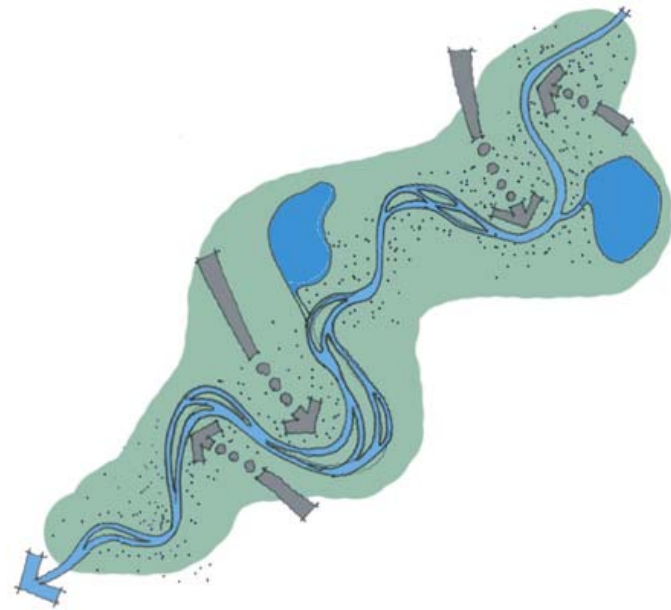
E. Rehabilitate the Channel to Encourage Meander / Braiding

Over the past decades, the river has become increasingly channelized by projects that seek to transport water from higher to lower elevations in a manner that has often resulted in minimizing space for the river to maximize land available for development. The net result of these projects is a relatively straight channel with artificially-raised banks. This condition has removed the river's natural meander and braiding, depriving it of its natural flood cycle. The term "meander" refers to a river's naturally winding path; and "braiding" refers to a river that has carved multiple simultaneous channels, diverging from and rejoining itself. Both of these river patterns contribute to greater riparian habitat, greater groundwater recharge and reduced velocity when contrasted to a straightened, channelized path.

Although it is impractical to consider returning the natural floodplain to the river in any substantial form, it is possible to increase river length and decrease flow velocities. Where possible, the channel should be rehabilitated to remove concrete or artificial structures, shaped to include meanders and designed to provide a wider river channel for braiding.

F. Expand the River's Recharge Area

Past development in the floodplain and projects that have channelized the river exacerbate flooding problems and increase the potential economic damage of major flood events. Development should look for ways to provide future projects that will not degrade the river's natural carrying capacity, water quality or riparian habitat. Such land use decisions should be made with sensitivity to the river. Expanding wetlands and creating new ones through restoration or construction will contribute to improving water quality by



Re-contour the channel to increase the river's length and meander, expand ground water recharge area, separate ponds from the River, and filter urban run-off before it reaches the river



Hard surfaced channels such as Tecolote Creek increase velocity, prevent groundwater recharge and offer little wildlife habitat

filtering pollutants and will serve as a refuge for native flora and fauna, allowing them to re-establish after flood events.

G. Adopt Programs to Reduce/Remove Non-Point Source Loads

Preventing pollution at its source is the best and most cost effective approach to improve the water quality of the San Diego River. During wet weather events, the first flush of contaminants from most urban and suburban surfaces is transported directly into the river via storm drain systems. Ongoing low flow in these systems continues to trickle contaminants into the river. Although the city has a relatively advanced program to identify pollutants and to educate citizens in this area, a significant quantity of pollutants continues to enter the river via storm drains.

Storm water is governed by the National Pollutant Discharge Elimination System (NPDES) Municipal Storm Water Permit (Municipal Permit). The Municipal Permit directs municipalities to implement an urban runoff management program on a jurisdictional and watershed level. The intent is to prohibit pollutant discharges into the storm water conveyance system, implement best management practices, ensure that storm water discharges do not cause water quality objectives to be exceeded, identify and eliminate sources of illicit discharges, and enforce local municipal water quality related ordinances.

The city recognizes the linkages between land use and in urban and suburban developments to impacts on the river, and has developed comprehensive programs to minimize these detrimental effects by implementing high standards on new development and redevelopment as it relates to non-point source runoff. Some examples include requiring compliance with numeric standards, mandatory structural practices (swales, infiltration basins), and mandatory non-structural practices (restricted irrigation, aggressive street cleaning). Localized approaches to



Example of a swale



Example of an infiltration basin

non-point source pollutant reduction/elimination are the only alternative to massive, in-channel treatment approaches. Highway and golf course runoff is of particular concern. Responsible agencies need to treat storm water runoff from highways prior to its reaching the river. Golf courses are traditionally maintained through intensive turf management. Course managers should be encouraged to create water quality buffers adjacent to the river and to implement sustainable management techniques that reduce the use of chemical based pest and weed control and fertilization.

H. Incorporate Hydrology and Water Quality Considerations in Future Planning and Guidance Documents and Monitor Water Quality following Implementation

A healthier river leads to cleaner water and groundwater recharge. Other benefits from a cleaner ecosystem will offer further benefits to habitat and downstream water quality. Like many urban rivers, the San Diego River has been neglected as a resource, and until recent decades, planning and development have largely ignored the river and the impact of development on it as a natural system.

Future planning and design efforts within the San Diego River watershed should address potential impacts on the river and consider means of benefiting the river and its corridor, by seeking opportunities to improve connections for people and wildlife, and to treat storm water before it reaches the river. Improvement measures should be monitored to evaluate their effectiveness, to identify lessons that can be applied elsewhere, and to celebrate successful outcomes.



Ponds at the First San Diego River Improvement Plan slow stream flow and offer limited riparian edge environment



The lack of natural buffer on the banks of the river through Riverwalk Golf Club increases the potential for run-off of fertilizers and pesticides into the river

3.1.2 UNIFY FRAGMENTED LANDS AND HABITATS

Reduction or loss of habitat and associated fragmentation, are two of the biggest factors that determine the viability of habitat to continue to support wildlife, particularly in regard to the riparian, coastal sage scrub, and chaparral plant communities that comprise the majority of natural habitat in the study area. In urban areas, the existing habitat is limited to the immediate riparian corridor of the river, and the fragmented and isolated upland habitat. Opportunities to increase habitat are limited; so focusing San Diego River Park efforts on creating or improving habitat in places where it also improves connectivity between existing habitat areas is the key to success.

RECOMMENDATIONS

- A. Establish appropriate corridors for the river, wildlife and people.
- B. Acquire open lands and/or pursue conservation easements.
- C. Eliminate invasive plant species and reintroduce native species.
- D. Naturalize floodway areas.
- E. Use biological systems to treat all storm water before it enters the river.
- F. Separate pedestrian/wildlife and vehicular river crossings.
- G. Establish habitat corridors as secondary gateways at side canyons and tributaries.
- H. Create 'Green Gateways'.



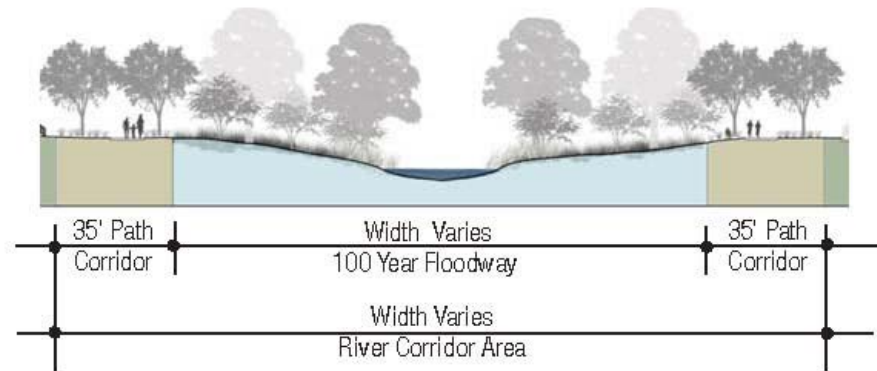
Connectivity between habitat areas increase the viability of wildlife



Naturalized floodway areas provide shade and protection for wildlife and cool the river

A. Establish Appropriate Corridors for the River, Wildlife and People

Water bodies, wildlife and people need 'breathing room' to maintain health and integrity. Open space corridors function as water quality buffers and as valuable habitat areas for both wildlife and people. The corridors can be thought of as layers adjacent to the river. These layers may be defined by topography, vegetation and vary in size depending on the river location.



Within the San Diego River Park, there should be two corridors: the River Corridor Area and the River Influence Area. The River Corridor Area will include the river itself and the land immediately adjacent to it. This corridor will be measured by the 100-year Floodway, as mapped by FEMA, plus 35 feet on either side of the floodway. The 100-year Floodway will vary in width depending on the floodway location and will provide a continuous corridor that accommodates the flooding hydrology of the river and a diversity of native vegetation for habitat. The 35 foot wide area will provide for native habitat and a multi-use pathway that will accommodate people. It will be a natural environment providing for the river ecology, enhancement of wildlife habitat and movement, and allowing for passive recreation, such as walking, bicycling, sitting and observation. The River Influence Area will adjoin the River Corridor Area and extend 200' on either side of the River Corridor Area. Within this area, development will occur and should be designed to acknowledge and celebrate the presence of the river and treat it as an amenity. Development should relate to the natural landscape and spatial character of the river.



Plan and Section of River Corridor Area

In addition to the San Diego River Park corridors listed above, there are two other corridors that provide for the protection, preservation and restoration of the river and wildlife. These two corridors are the city's Multi-Habitat Preservation Area (MHPA) and the Wetland Buffer for wetlands. The MHPA area has been established and mapped by the city. The Wetland Buffer is not mapped, but is determined at the time of proposed development. These three layers: San Diego River Park Corridors, MHPA and the Wetland Buffer, all work together to provide for an appropriate corridor for the integration of the river, wildlife and people.

B. Acquire Open Lands and/or Pursue Conservation Easements

To expand, unify, and connect the river corridor, acquire open space parcels, and obtain public access or conservation easements on private property whenever possible as opportunities arise.

C. Eliminate Invasive Plant Species and Reintroduce Native Species

Floodplains recaptured in natural vegetation offer great promise in improving ecological function. Invasive, non-native plant species disrupt the balance and function of natural ecosystems, often choking out native species. The City of San Diego should coordinate with other public agencies, community groups and land owners to develop and implement vegetation management programs to remove exotic species and plant native riparian vegetation.

D. Naturalize Floodway Areas

Naturalization should address both current and potential future hydrologic regimes. Naturalization should consider the re-grading of areas to create upland habitat adjacent to or in the floodplain and a continuous transition of native plant communities between the riparian corridor and upland habitat areas. The naturalized floodway areas would restore river channel dynamics to a more natural hydrologic regime which would result in improved riparian habitat.

E. Use Biological Systems to Treat All Storm Water before it Enters the River

Biological treatment systems (constructed wetlands) provide water quality buffering that mimics natural processes, and provides wildlife habitat while maintaining the character of the river corridor. These systems provide a vegetative substrate for micro-organisms that break down pollutants and waste. This method of water filtering aligns with the United States Bureau of Reclamation Storm Water Treatment Program goals. The San Diego River Park should also make storm water treatment locations visible and integrate educational features that interpret the value and function of such systems and the day-to-day function and cycles of a river.

F. Separate Pedestrian/Wildlife and Vehicular River Crossings

San Diego River Park improvements should retrofit existing river crossings to allow grade-separated crossings for wildlife, San Diego River Park users, and vehicles. These bridges should address crossings at all scales, from trails to roads to highways. Pedestrian safety and continuity of pedestrian movement is improved by eliminating conflicts and interactions with vehicles. The construction and use of grade-separated pedestrian passages is encouraged, such as the one under Friars Road at Fenton Marketplace. Similar passages should be created to improve pedestrian movement between the river valley and upland neighborhoods and canyons. Where feasible, bridges should include adequate width to encourage wildlife movement and be vegetated. Such eco-bridges diminish the separation caused by roads and other development.

G. Establish Habitat Corridors as Secondary Gateways at Side Canyons and Tributaries

Habitat corridors can serve as smaller gateways into side canyons and tributaries. These gateways will also provide recreational and habitat connections to less-frequented areas of the San Diego River Park.

H. Create ‘Green Gateways’

Green Gateways are key landscape elements located at the entries to and along the corridors through the San Diego River’s domain. The gateways consist of large-scale plantings within public rights-of-way. Green Gateways create visual and functional connectivity to the San Diego River corridor and adjacent landscapes. Visually, these gateways mark the domain of the river corridor, providing a variety of view and access



Pedestrian Tunnel under Friars Road provides a link between the valley floor, the valley wall, and Ruffin Canyon



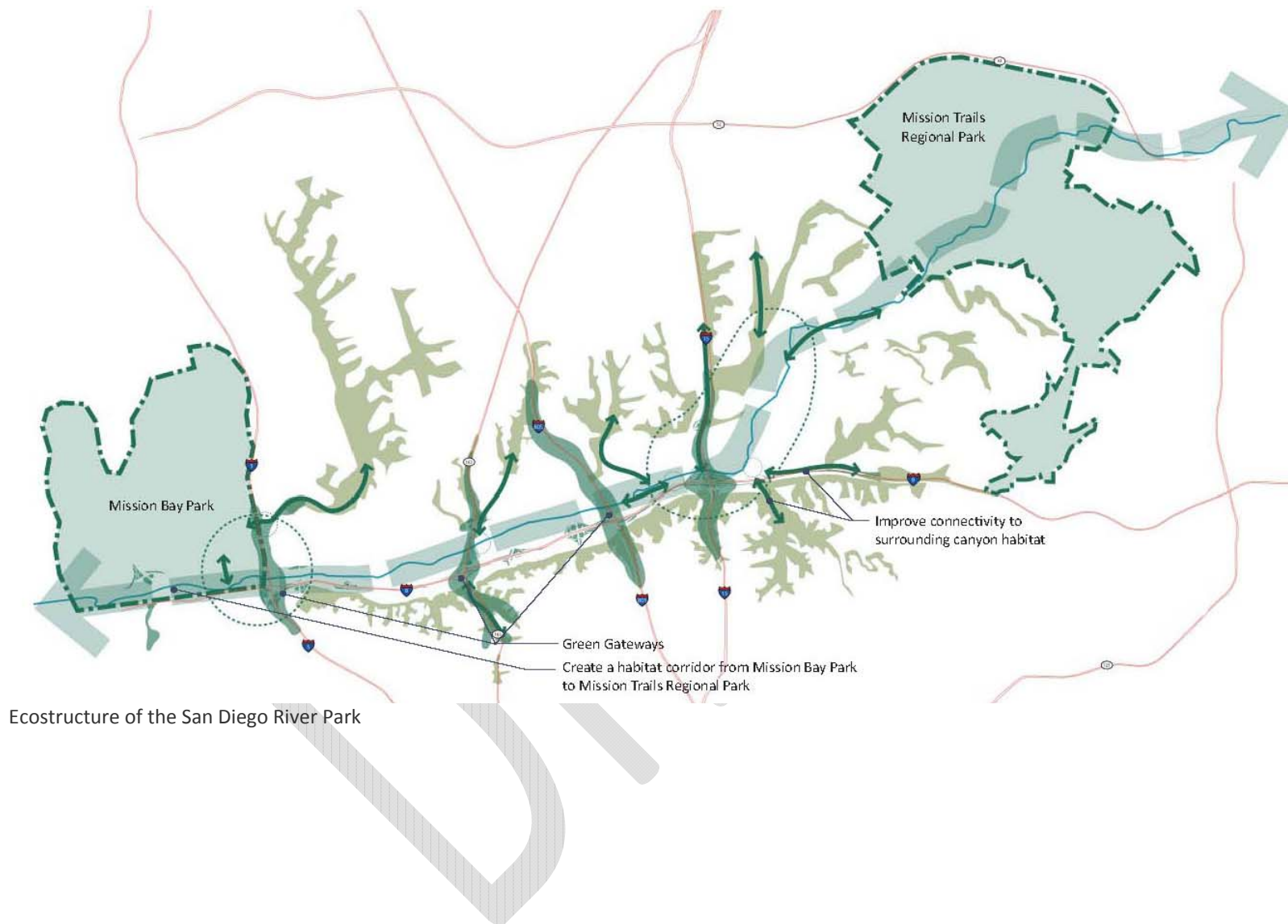
Highway infrastructure and rights-of-ways should be adapted to support native plants and habitat

experiences. Depending upon each highway's elevation in relation to the ground plane of the valley bottom, the goal is to convey the sense of going "over" or "through" the riparian canopy of the river corridor. Visually, these gateways will counterbalance the overwhelming presence of the existing highway infrastructure.

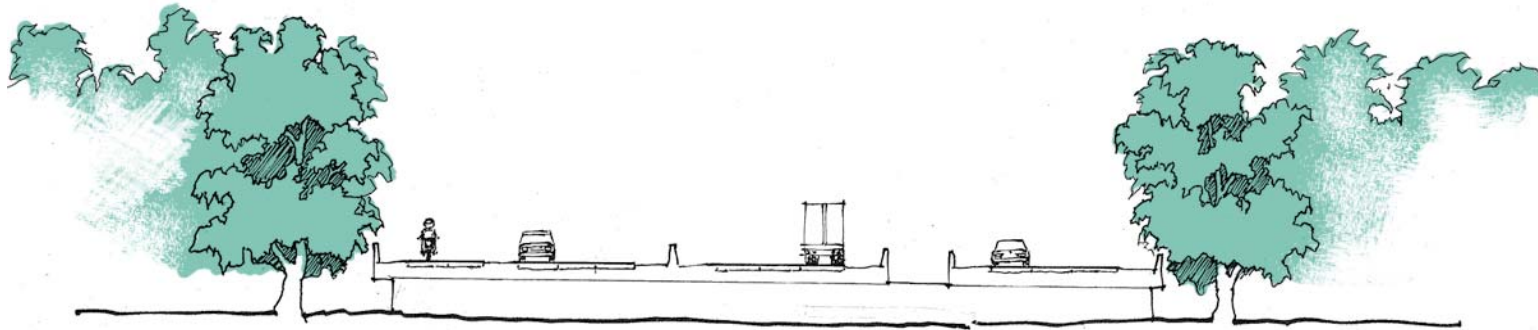
The San Diego River Park should implement gateways at a range of scales, sized to fit the visual and functional needs of the connections being made via the use of native vegetation. Large-scale gateways are appropriate at locations where highways, such as Interstate 5, Interstate 15 and State Highway #163, cross the San Diego River Valley. Interstate 805 offers a visual gateway to the valley below. These plantings should include native trees and understory vegetation selected from the Recommended Plant Species in Appendices. Fremont Poplar (*Populus fremontii*) is recommended for this application; this species is a large, easily-recognizable tree that is a signature element of the region's riparian corridors and manifests seasonal interest. An iconic tree, such as this one, will emphasize river proximity. Open space parcels, whether acquired outright or through public access easements that are contiguous with the gateways can contribute to and enhance their effect. These open space corridors will extend the native vegetation of the gateways.



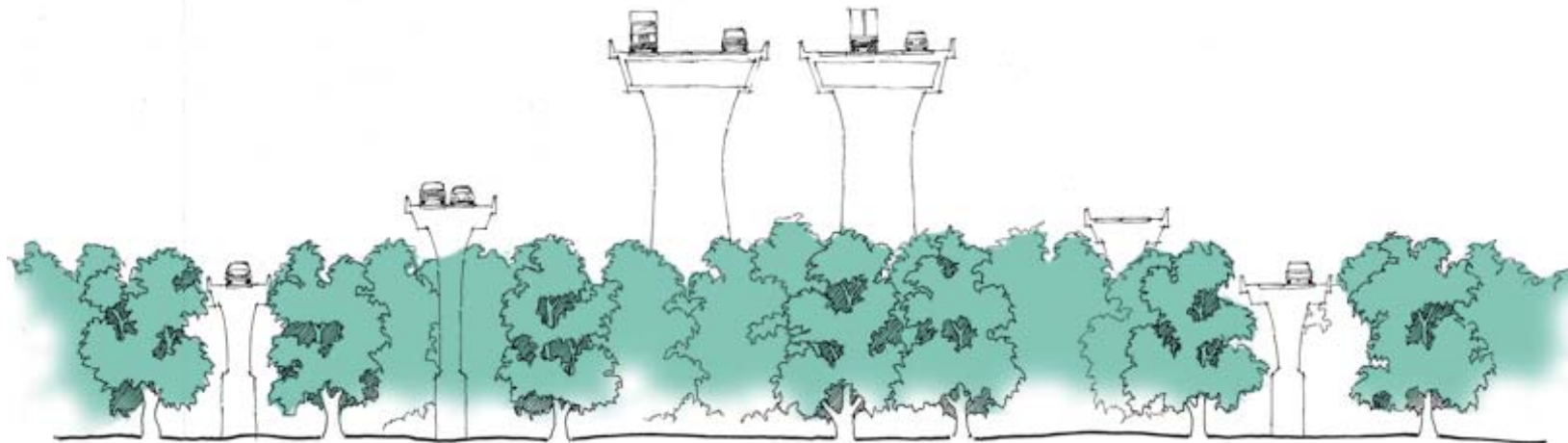
Examples of eco-bridges



Ecostructure of the San Diego River Park



Section of the Cabrillo Freeway (State Route 163) illustrating the “Through the green gateway” experience as State Route 163 crosses above the San Diego River. There is a sense of enclosure and a cooler microclimate on the edges of the highway created by the shading of the riparian forest canopy.



Section of Interstate 805 illustrating over “the green gateway” experience as the highway crosses above the San Diego River. From above, the gateway outlines the extent of the river’s domain for the motorist.

3.1.3 CREATE A CONNECTED CONTINUUM, WITH A SEQUENCE OF UNIQUE PLACES AND EXPERIENCES

Establish a continuous river pathway system from the ocean to Mission Trails Regional Park and from canyon to canyon with frequent access to transit and neighborhoods. Coordinate with community plans, the San Diego Bicycle Master Plan and Pedestrian Master Plan, adjacent jurisdictions and other current planning efforts to develop specific locations for neighborhood connections and route alignments.

Establish a linked string of parks and open spaces through land acquisition, public access easements and partnerships with land owners in key locations. These parks and open spaces will serve a variety of needs providing valuable protected habitat in some places and access to the river and connection to adjacent development in others. Collaborate with and support community planning efforts to identify areas for redevelopment and new development to have a river focus and to identify potential land to acquire for parks and open space. As redevelopment occurs, engage land owners and developers in the San Diego River Park master planning process to support the creation of places that are mutually beneficial.

RECOMMENDATIONS

- A. Create a continuous multi-use San Diego River Pathway from the Pacific Ocean to the City of Santee.**
- B. Acquire open space lands to expand connectivity.**
- C. Create overlooks at unique places.**
- D. Upgrade and link existing parks into San Diego River Park system.**
- E. Explore opportunities for additional community or neighborhood-scale parks.**
- F. Link the river pathway to adjacent canyons and neighborhoods.**
- G. Integrate art into the identity and experience of the San Diego River Park.**
- H. Install San Diego River Park way-finding signs.**
- I. Explore opportunities for water recreation.**

A. Create a continuous multi-use San Diego River Park Pathway from the Pacific Ocean to the City of Santee

Organize an east-west multi-use river pathway from the Pacific Ocean at Ocean Beach Park to the City of Santee. This pathway is referred to in this document as the river pathway and serves as a recreational opportunity, or in some instances, can serve as a non-motorized transportation route. The river pathway should be continuous, open to pedestrians and bicycle users, and uninterrupted by conflicts with vehicles, wherever possible, through grade separations. The river pathway should be designed per the Design Guidelines of the Master Plan, Section 4.0.

The river pathway should be located on both sides of the river. In some locations the river pathway will only be on one side of the river due to the topography, MHPA boundaries or required wetland buffers. In these cases, smaller pedestrian-only trails maybe provided on the opposite side of the river from where the river pathway occurs. In addition to the river pathway, there should be north-south multi-use path connections to neighboring communities, businesses, activity/shopping centers and regional parks such as Balboa Park, Presidio Park, Mission Bay Park and Mission Trails Regional Park. Smaller, unpaved trails can lead off of the river pathway to give access to special views of the river or interpretive overlooks.



The multi-use River Pathway provides the opportunity to exercise, socialize, and connect communities

B. Acquire open space lands to expand connectivity

Land beyond the corridor itself is important to the overall connectivity of the open space system. As opportunities to acquire such land arise in locations that can expand the open space network, acquisition should be pursued where they support the master plan principles.

C. Create Overlooks at Unique Places

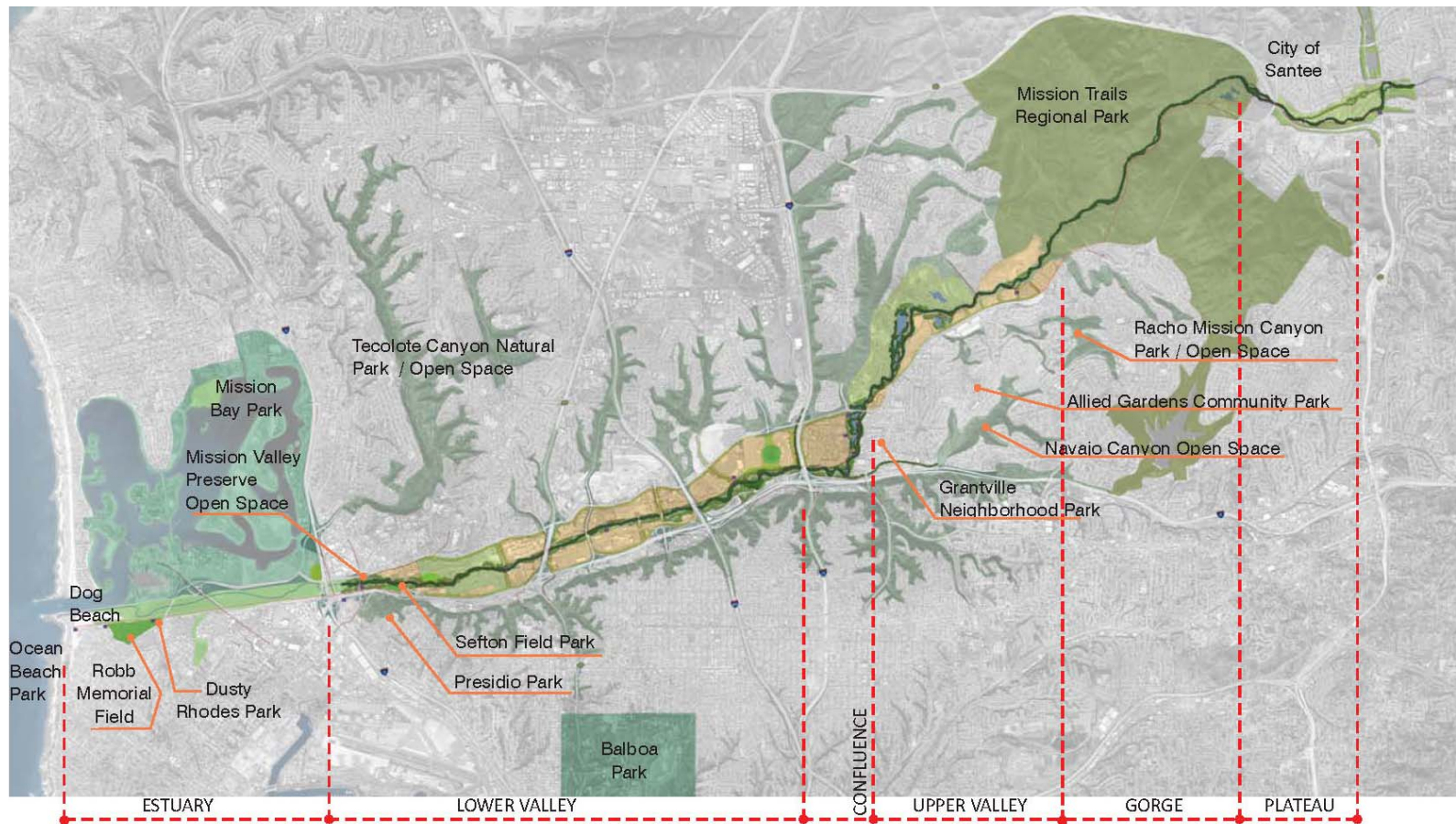
Overlooks will offer viewpoints along the river's length or at nodes where a north-south connection to a community meets the San Diego River Park. Generally, overlooks will be along the river pathway, and will include picnic tables, interpretive signs and/or seating according to the size of the space. Refer to the Design Guidelines of the master plan, Section 4.0, for recommended materials.

D. Upgrade and Link Existing Parks into the San Diego River Park System

The San Diego River Park is ultimately a linked series of parks and open space. Awareness of the river and the river park should begin in existing parks that can be linked to the river park. Physical and conceptual elements of the San Diego River Park should be used in upgrades and renovations of existing parks. Establishing a set of materials that are evocative of and sensitive to the San Diego River will knit the system together, and is an overall goal of the San Diego River Park Master Plan. As parks are redeveloped, sensitivity to the river should guide design and material selection. Native planting areas should be expanded and impervious surface areas reduced.



At the western edge of the River Park, Dog Beach is a unique place that is much loved by the local community



Existing Parks and Open Space

- Ocean Beach Park
- Mission Bay Park
- Dog Beach (part of Mission Bay Park)
- Dusty Rhodes Park (part of Mission Bay Park)
- Robb Field (part of Mission Bay Park)
- Mission Valley Preserve Open Space
- Presidio Park
- Sefton Field Park
- Tecolote Canyon Natural Park/Open Space
- Grantville Neighborhood Park
- Allied Gardens Community Park
- Navajo Canyon Park/Open Space
- Rancho Mission Canyon Park/Open Space
- Mission Trails Regional Park

E. Explore Opportunities for Additional Community or Neighborhood-Scale Parks

The Mission Valley, Tierrasanta, Navajo, and East Elliot Community Plan Areas will have population-based park deficits in the year 2030 per the City's General Plan Standards. Long-range planning for these communities and the San Diego River Park should look for locations along the river, such as at the Qualcomm Stadium site and the Grantville Redevelopment Subarea, to reduce the park deficits. The new park sites should provide connections to the San Diego River Park.

F. Link the River Pathway to adjacent Canyons and Neighborhoods

The river pathway is a benefit to the entire City of San Diego. Connections to neighborhoods bordering the river corridor should be established off-street where possible and on-street where necessary. Specific connecting links to existing bicycle and pedestrian trails in Tecolote Canyon Natural Park/Open Space, Navajo Canyon Park/Open Space and Rancho Mission Canyon Park/Open Space should be developed as the river pathway is established.

G. Integrate Art into the Identity and Experience of the San Diego River Park

At unique places or significant historical or cultural opportunities, art should be incorporated into the San Diego River Park. Art elements should be a component of river pathway access points, interpretive areas and signage, fountains where appropriate, fencing, site furnishings and in the paving texture and color. Art should be located in areas of high visibility such as intersections, street crossings and entrances/gateways.

Incorporation of publicly accessible art on public and private projects should be supported and encouraged. An artist in residence program could create the opportunity for an individual artist to focus on the river for an extended period of time, creating art that interprets the river and offering the opportunity to teach, interact with schools, and to actively engage people with art and the river. The City of San Diego Commission for Arts and Culture may serve as a source of information for means and methods of incorporating art into specific projects and for the selection of specific artists.



"Snake Path", Artist: Alexis Smith



"Urban Trees" Photo Courtesy Dale Frost, Port of San Diego

H. Install San Diego River Park Way-Finding Signs

In many locations the invisibility of the river is striking. The installation of San Diego River identification signs at road crossings has increased awareness of the river in the community. Other opportunities exist to expand awareness of the river and the San Diego River Park. At a minimum, the river should be identified at every vehicular and pedestrian crossing on both edges. The signs should highlight the presence of the river and include the San Diego River Park logo. The signage system should also identify canyons and tributary creeks where they intersect and where they flow into the San Diego River. In addition, signs in the canyons and nearby open spaces that are connected with the river corridor should indicate the direction of the river.



San Diego River sign

I. Explore Opportunities for Water Recreation

Water recreation in the river should be studied as in-fill development and redevelopment occurs along the river: swimming, wading or bathing in the San Diego River is prohibited per Municipal Code Section 43.0104. All proposed water recreation, including but not limited to non-motorized boats and fishing, will require review and approval by the federal, state and local resource agencies during discretionary review of a project proposal. The entire river is mapped within the MHPA boundaries and, therefore, all activities are subject to Section 1.4, the Land Use Considerations, of the MSCP Subarea Plan

The following areas along the river have water restrictions in place; they include the Southern Wildlife Preserve, the Mission Valley Preserve and the First San Diego River Improvement Project (FSDRIP). The Southern Wildlife Preserve, located at the western end of the river, only allows non-motorized boats in the river west of Ingraham Street Bridge from April through September and permits are required to use the area. The Mission Valley Preserve, just east of the Southern Wildlife Preserve, is also a preserve for wildlife and water recreation is restricted. Within the FSDRIP area, water recreation is defined in the FSDRIP Natural Resource Management Plan (NRMP). This NRMP states that the water and buffer areas are a wildlife habitat and that no swimming and boating is allowed. Passive recreation, such as bicycling, picnicking, fishing and wildlife observation is allowed. Fishing is an allowable use in the riprap areas and from bridge crossings. Other activities that deviate from the sidewalks are not permitted.

3.1.4 REVEAL THE RIVER VALLEY HISTORY

The San Diego River Park should function as an open-air living museum to tell the history of settlement, and ecology of the San Diego River Region. The stories of the Mission and early California settlement and native communities, and the modern agricultural periods should be told through maps, art and signage at appropriate locations throughout the San Diego River Park. The historic condition of the river ecology and native wildlife habitat, its current condition and the rehabilitation of the area can reveal the story of the past and future river corridor.

RECOMMENDATIONS

- A. Develop an interpretive program based on the historical, biological and cultural resources of the river.
- B. Create a San Diego River Park Interpretive Center.
- C. Use maps, art and signage to integrate the history of the river valley in appropriate locations.

A. Develop an Interpretive Program Based on the Historical, Biological and Cultural Resources of the River

As the San Diego River Park Master Plan is implemented, an interpretive program should be created which tells the story of the evolution of the San Diego River including the history of the river's hydrology, the wildlife habitat and the human settlement of the San Diego River region. The interpretive program should identify a location for a San Diego River Park Interpretive Center and key locations for overlooks that provide information on significant historic sites. In addition, the interpretive program should provide other locations along the river that will interpret the natural ecology and hydrology of the river, its history and how it has changed over time. Describing the process and purpose of the physical improvements to the river channel and recharge area and recording the evolution of these changes over time will tell the story of the rehabilitation of the San Diego River.



Example of interpretive garden at Alvarado Gardens, by artist Robert Miller

Significant Historic Sites

- Midway Pacific area – the Derby Dike
- Old Town area – the San Diego Presidio and the original San Diego de Alcalá Mission site
- Mission Valley area – Prehistoric Cosoy Village, the 1881 California Southern railroad, the Mission San Diego de Alcalá, and the Nipaquay Village
- Navajo area – Kumeyaay Village, Old Mission Dam and Flume

B. Create a San Diego River Park Interpretive Center

Due to the significance of the river's history in the San Diego region an Interpretive Center should be provided along the river in a central location. The center could be a public or private facility and designed for residents and visitors. Within the center there could be literature; videos, lecture rooms and a museum to show case the river's history. Printed historic brochures and walking tours should be provided.

C. Use Art, Maps and Signage to Integrate the History of the River Valley in Appropriate Locations

Art, maps and interpretive signs should be located at sites that will describe the cultural and historical story of the river. Where land is available, an overlook should be located to feature several interpretive signs that could provide more detail about the significance of the area. Materials selected for the maps and signs should meet the Design Guidelines of Section 4.0 of the master plan.



Example of an interpretive sign

3.1.5 REORIENT DEVELOPMENT TOWARD THE RIVER

Rivers, in general, provide significant value and advantages for urban environments. They connect communities to each other, provide recreation and open space, offer views in a crowded environment, provide habitat for valued species and provide dramatic settings for urban places. Along the San Diego River, the value has been neglected by placing the back side of buildings toward the river, locating delivery ramps adjacent to the river and, in some cases, locating parking lots that drain to the river. Through this type of urban design, the river is polluted, filled in by invasive species and becomes an area that is not “perceived to be” safe. Opportunities to change this type of urban design can be provided through implementing the following recommendations during the redevelopment along the river.



Riverfront redevelopment Malden River, Medford, MA

RECOMMENDATIONS

- A. Treat the river as an amenity.
- B. Encourage mixed-use development.
- C. Encourage development to face the river.
- D. Include access to the river through new development.
- E. Reclaim frontage roads as pedestrian and bicycle-only green buffers.
- F. Uncover the river's tributaries.
- G. Create 'Green Streets'.
- H. Enhance the development edge facing the river with active uses.

A. Treat the River as an Amenity

Development adjacent to the river should be designed to treat the river as a desirable feature by taking advantage of the open space it creates, connecting to the river pathway system for an alternative means of transportation, and capturing the dramatic views of the water environments.

B. Encourage Mixed-Use Development

Mixed-use developments are intended to provide a mix of housing, jobs, shopping, commercial services and public or semi-public open spaces. This type of development promotes higher residential densities that are within close proximity to public transportation, a variation in type of dwellings to accommodate students, workforce and senior housing, and outdoor gathering spaces to create a village atmosphere. Future projects adjacent to the river should look for opportunities to provide mixed-use development that will orient towards the river. Commercial services, cafes and other active uses could be located on the ground floor to take advantage of the connection to the river pathway, which also connects to the existing trolley transportation system, while residential uses could be found in the upper floors that have privacy and views to the river.

C. Encourage Development to Face the River

All new buildings and outdoor areas should face the river through the placement of windows and doors, gateways, active uses, pathway connections and passive seating areas. If development is designed with a front entry or main activity use to the street, then an entrance or activity of equal quality should be located facing the river.

D. Include Access to the River through New Development

A majority of the river frontage is not adjacent to a public street and, therefore, is not accessible. Through in-fill development and redevelopment of a site, access to the river should be provided either through the building or by a pedestrian path from the nearest public street through the site to the river. These paths should have public access easements and signs located along the public streets to mark the public path entrance.

E. Reclaim Frontage Roads as Pedestrian and Bicycle-only Green Buffers

Frontage roads that are parallel to the river limit visual and physical access to the river. As these frontage roads are improved, additional right of way should be developed for safe pedestrian and bicycle movement, with additional landscape to buffer pathways from adjacent roads and to provide access to the river pathway where appropriate.

F. Uncover the River's Tributaries

Many of the road crossings and tributaries of the San Diego River are contained in culverts. Removing pipes, culverts and covered channels to expose the river to daylight combined with widening the channel and gently sloping banks will reveal the natural structure and pattern of the river, and support the naturalization of the floodplain and river corridor. Where possible, culverts should be replaced with bridges to reduce flow constraints, expand riparian habitat and encourage wildlife movement.

G. Create 'Green Streets'

Green streets are streets that integrate vehicles with a quality pedestrian environment and landscape areas that convey and collect storm water within the rights-of-way to protect the river from pollutants. Green streets offer the opportunity to include open swale storm water conveyance and have a tree canopy composed, in part, of native species. These green streets should extend north and south beyond Interstate 8 and Friars Road to provide connectivity to adjacent communities and upland habitat.

H. Enhance the Development Edge Facing the River with Active Uses

When possible, all new project proposals should enhance the development edge of the San Diego River Park with plazas, cafes, commercial shops, parks, restaurants, recreation centers, outdoor balconies, amphitheaters and/or civic meeting rooms. These spaces can be public or private, but will be more successful if open to the public to use and accessible from the River Pathway. If these active areas are private then they should be somewhat visible from the River Pathway and have views of the river. Materials for these spaces should be of the same high quality of the main structures and should reflect the natural colors and textures of the river valley.



Example of a green street in Seattle, WA



Example of development facing the river

3.2 SPECIFIC REACH RECOMMENDATIONS

The San Diego River can be understood as a linked series of discrete reaches. The unique characteristics and opportunities of each reach suggest an approach that reveals their best qualities and showcases the changing visual and physical experience as one moves through the river valley.

Within the City of San Diego, the master plan identifies six reaches. Traditionally distinguished by hydrologic characteristics, these reaches are based upon distinct topographic conditions, spatial experience and/or land use. Following the flow of water from the ocean to the City of Santee, the reaches are the Estuary, the Lower Valley, the Confluence, the Upper Valley, the Gorge and the Plateau. Specific recommendations needed to create the river park are identified in each reach.

Specific reach recommendations are described in the following categories: existing conditions and recommendations. The existing conditions category provides a brief description of the area and the current conditions of the river hydrology and habitat. The recommendations category outlines how to achieve the master plan principles and general recommendations. Where appropriate, key sites are identified where special opportunities exist or where conditions and location define the site as a critical component of the river park.

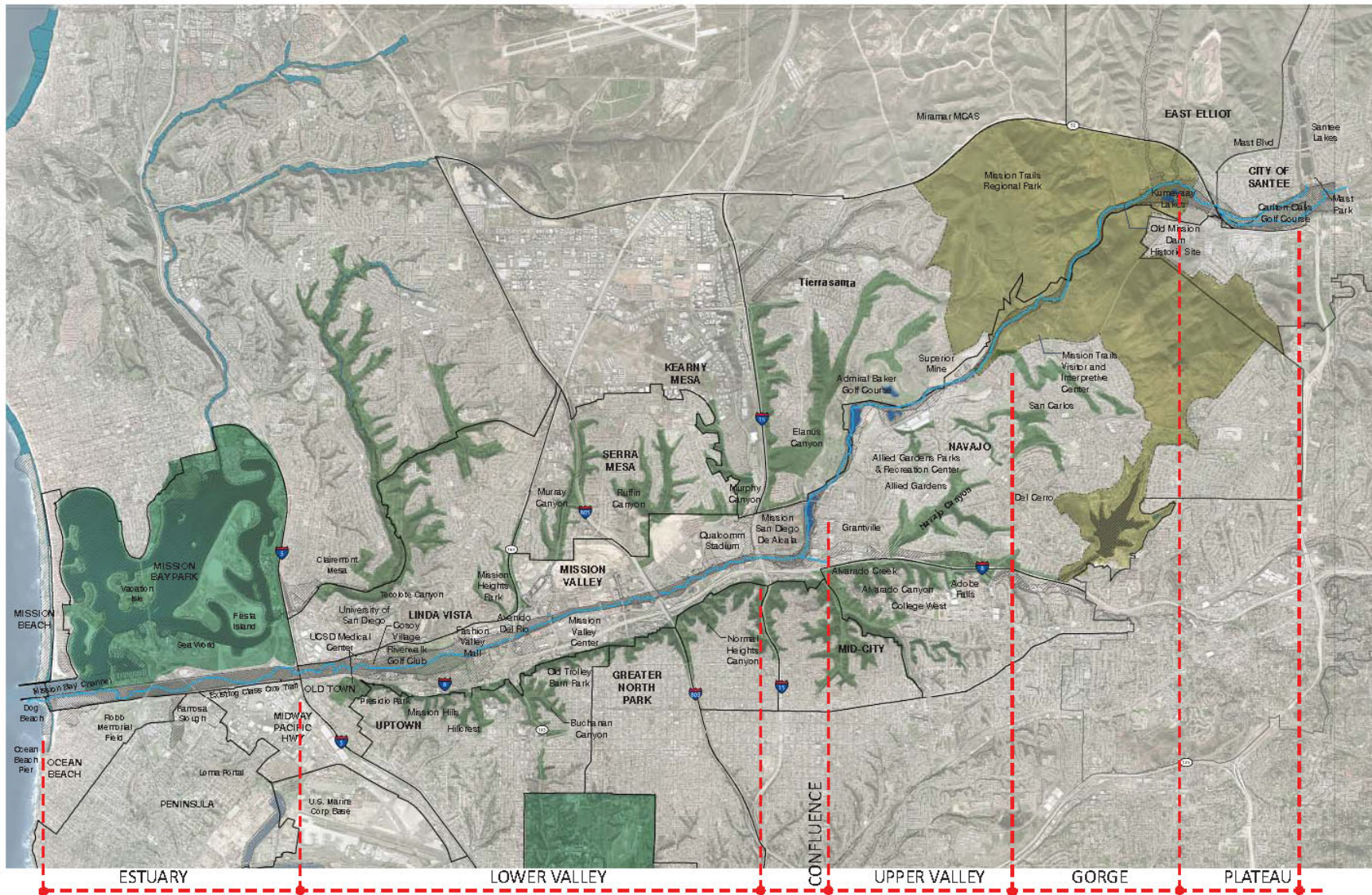


Figure 4. San Diego River Reaches

3.2.1 ESTUARY REACH

Overview

Extending from the Pacific Ocean to the western boundary of Mission Valley Preserve, the Estuary Reach is a unique habitat where the ocean waters converge with the fresh waters from upstream. The estuarine ecosystem at the mouth of the San Diego River is remarkably healthy, but significantly smaller than its original extent. The Derby Dike on the river's southern edge is responsible for this reduction in scale, separating the river from its delta that historically (and alternately) included both Mission Bay and San Diego Bay. The dike has also restricted and concentrated pedestrian and vehicle circulation, resulting in heavy containment of boundaries to the river channel.

The multiple crossings of Interstate 5, Mission Bay Drive and the railroad have had additional impacts on the estuary, creating an abrupt terminus and disrupting the gentle transition from estuarine to riparian habitat. The tremendous experience of viewing the entire estuary and shoreline as one entity is now limited by views of development, the dikes, and by highways containing the river. Despite these alterations, the estuary remains an expansive environment defined by horizontality.

The estuary includes, or is adjacent to several significant existing regional parks and open spaces, including Ocean Beach Park, Famosa Slough Open Space and Mission Bay Park, (which includes Dog Beach, Robb Field, Dusty Rhodes and the Southern Wildlife Preserve Open Space). The existing San Diego River Pathway exists on the south side of the river on top of the man-made river channel/dike and connects Ocean Beach Park to the Mission Valley Preserve. In addition, there is a multi-use path on the north side of the river that follows the river to Friars Road and at this point the path is located on the public street. Dog Beach is located at the mouth of the river and is used regionally by many dog owners. East of Dog Beach is the



Diverse estuarine vegetation



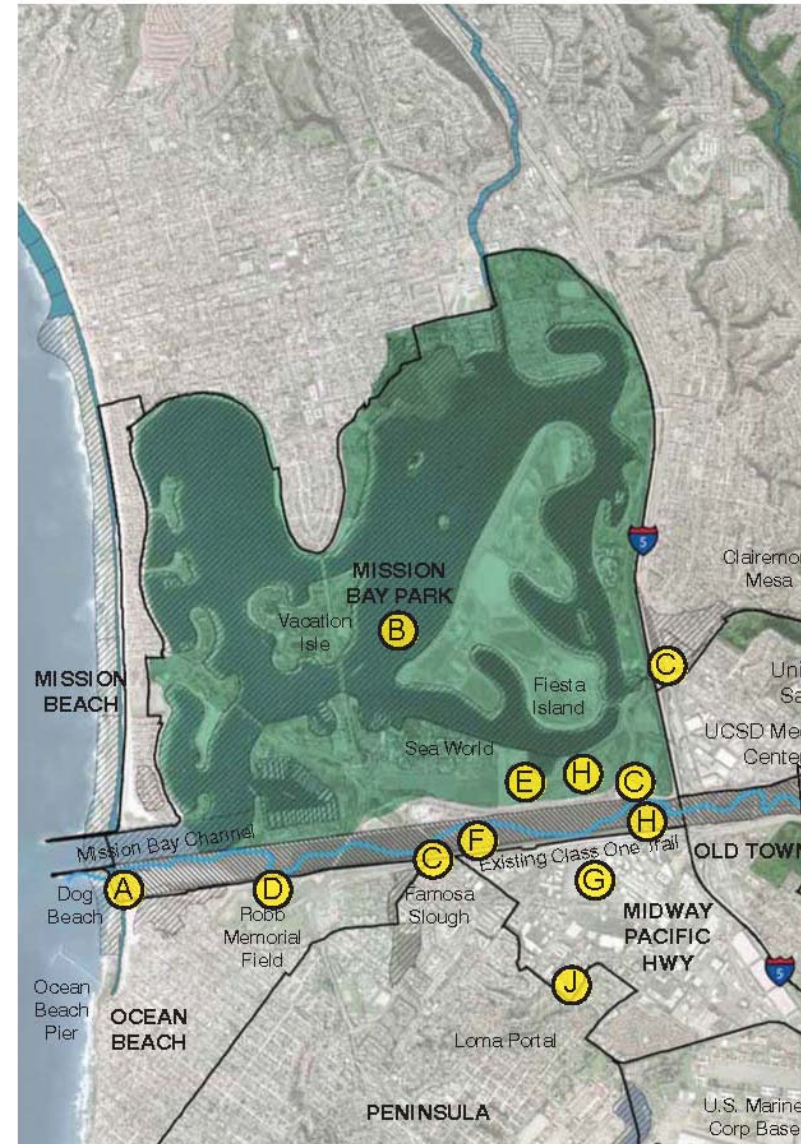
The estuary supports rich avian and aquatic species

Southern Wildlife Preserve, a unique habitat for waterfowl and shore birds, in addition to least terns, that use this area of the river channel to forage for food. To minimize disturbance to the habitat, especially wintering waterfowl, only non-motorized boats are allowed to use the river channel west of the Ingraham Street Bridge from April through September. Obtaining a park use permit from the Park and Recreation Department will be required prior to use of the river channel. The Park and Recreation Department will instruct permit applicants on use restrictions and will limit permits to ten for any given day. Fishing is allowed in the river channel west of Sunset Cliffs Boulevard. Wading in the river channel to fish is permissible only from Dog Beach. Interpretive signs about the Estuary Reach and its relationship to the river are needed.

DRAFT

RECOMMENDATIONS

- A. Create a San Diego River Park Pathway Kiosk at Dog Beach identifying the western entrance of the River Pathway.
- B. Support the goals of Mission Bay Park Master Plan, (including Dog Beach, Robb Field, and Southern Wildlife Preserve), the Famosa Slough Enhancement Plan, and the Mission Valley Preserve.
- C. Improve pathway and trail connections to Mission Bay Park, Famosa Slough, Tecolote Canyon, Southern Wildlife Preserve and other open spaces from the San Diego River Pathway.
- D. Create a kiosk at Robb Field identifying the entrance to the San Diego River Pathway and re-landscape the area adjacent to the river with natives that relate to the estuary and river edge.
- E. Provide a river and estuary interpretive center according to the recommendations of the Mission Bay Park Master Plan.
- F. Create estuary overlook platforms along the San Diego River Park Pathway that could include interpretive signs on the hydrology and habitat of the Southern Wildlife Preserve.
- G. As the Sports Arena redevelops, explore the potential to create a park with a recreational connection to the river and neighborhood.
- H. Provide interpretive signage along the river pathway about the rich history of the estuary including the development of Old Town, the construction of Derby Dike and the creation of Mission Bay Park.
- I. Coordinate with Caltrans to establish a 'Green Gateway' at the intersection of Interstate 5 and the river valley by revegetating the Interstate rights-of-way with native vegetation.
- J. Create a pedestrian/bicycle connection between San Diego River Park and the San Diego Bay.



Estuary Reach

The Estuary Reach of the San Diego River Park must balance two primary needs: human interaction at an educational and experiential level, and the protection and maintenance of sensitive habitat. Careful design can accommodate both elements in a manner that benefits the system as a whole. Greater understanding of the ecosystem through interpretation will instill a sense of ownership and stewardship for this delicate part of the river valley. Overlooks should be provided along the river pathway to interpret the Southern Wildlife Preserve.

Opportunities to explore the expansion of the estuary should be sought, where possible, to further diversify the wildlife habitat. The potential to do so may exist at Famosa Slough and at Mission Bay Park. Planning efforts should also acknowledge that the entire corridor within the Estuary Reach, as proposed for the San Diego River Park, is within the boundaries of Mission Bay Park. Planning must integrate with and support the Mission Bay Park Master Plan.

The River Park must support planning efforts in Mission Bay Park to provide a passive, ecology-based facility, which includes educational and interpretive opportunities, public art, and scenic overlooks. The facility should be oriented toward the river, and buffer the river edge with native vegetation.

3.2.2 LOWER VALLEY REACH

Overview

The Lower Valley includes the Mission Valley Preserve east to Interstate 15. The Lower Valley Reach is heavily urbanized; extensive paving in the form of parking lots and roadways, massive infrastructure projects and relatively high density development surround this reach. The river's presence is further marginalized by channelization and ponds. Simple lack of space presents a severe hydrological constraint throughout the Lower Valley Reach, and exotic vegetation negatively impacts the reach's native ecosystems.

At the very west end of the Lower Valley is the Mission Valley Preserve, which extends from the Interstate 5 to Sefton Field and the YMCA. The preserve is entirely within the floodplain of the San Diego River. Most of it is riparian in nature, including black willows, cottonwoods, and sycamores. The western edge is estuarine, due to the constant fluctuation of the ocean, with salt grass, pickleweed, and spiny rush. This preserve is home to many wetland species and home to the endangered Least Bell's Vireo, a tiny songbird that nests in the area after wintering in Baja California. The birds usually arrive sometime in the spring, as early as mid-March, and stay until as late as September. The Park and Recreation Department owns and maintains the preserve.

The communities of the Lower Valley Reach and above the valley walls are particularly deficient in active recreation space and the San Diego River Park should play a role in addressing this need. In 2009, Sefton Field was dedicated to the city as a 19-acre population-based park, of which 7.37 acres are usable for ball fields and children's play area and the remaining



Lower Valley looking northwest

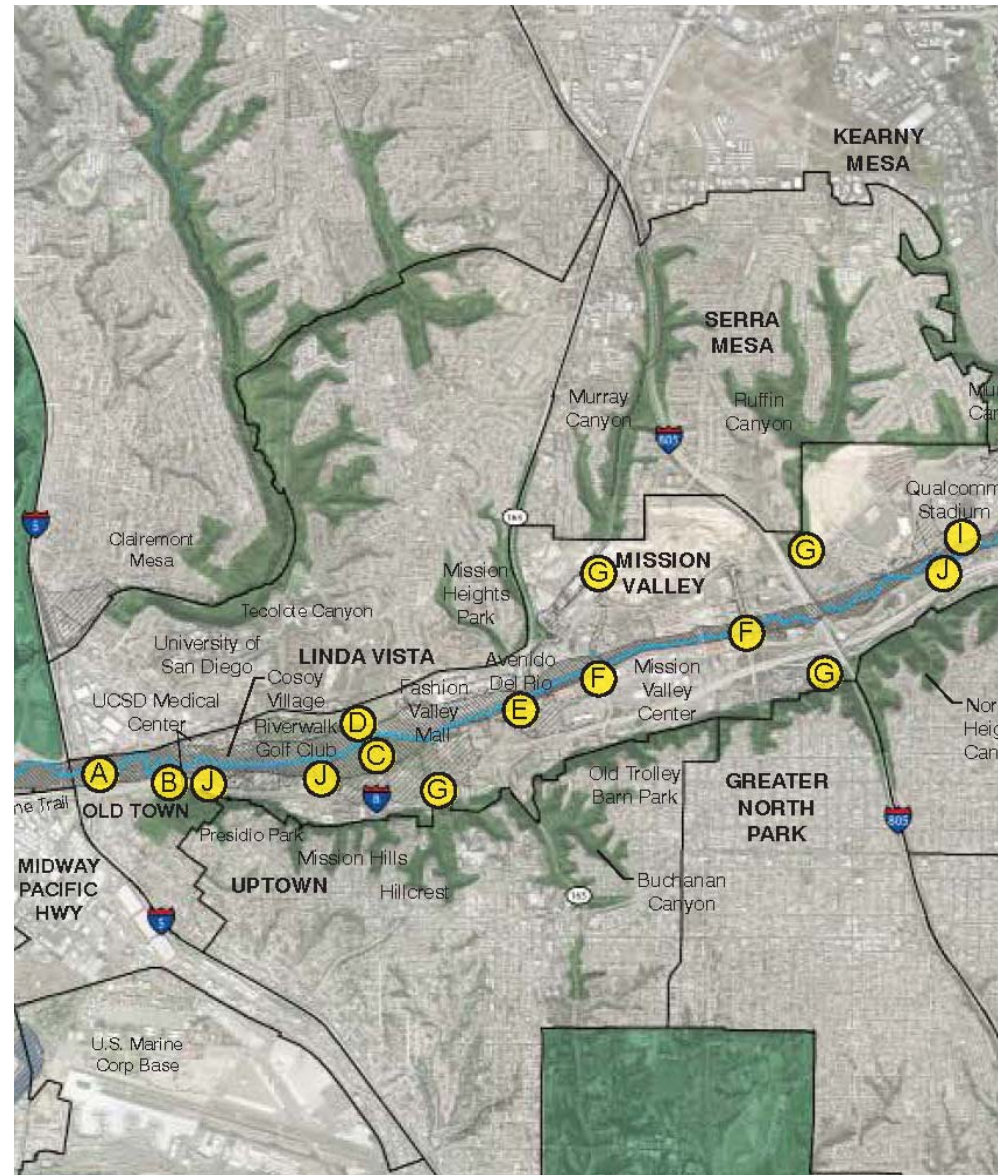


Lower Valley from University of San Diego looking southeast

acreage is a mitigation site for the construction of the Metropolitan Transit System (MTS) trolley. On the north side of the river, across from Sefton Field is the Mission Valley YMCA. This site, 8.3 acres, is owned by the city with a lease to the YMCA for recreation facilities including a recreation building, outdoor multi-use fields and a 50-meter pool. The San Diego River pathway is located on the south side of the river from the Mission Valley Preserve to Sefton Field. The city is looking at the feasibility of a trail connection from Sefton Field, across the river to the YMCA. East of Sefton Field, the river pathway does not exist along the river. At Fashion Valley Road, the river pathway begins again on the north side of the river only and continues under State Highway 163 to the First San Diego River Improvement Project (FSDRIP) at Hazard Center Drive. From Hazard Center Drive, the western boundary of FSDRIP, the river pathway is found on the north and south side of the river to the end of FSDRIP at Qualcomm Way. The river pathway stops at all existing public street intersections within FSDRIP, creating several gaps in the pathway. The city has completed a feasibility study on above-grade connections for the river pathway that would close all the gaps within FSDRIP. The next river pathway gap occurs under Interstate I-805 due to a large drainage structure. From Interstate 805 to the east, the river pathway does not exist as a formal paved path. When redevelopment occurs along the Fenton properties and the Qualcomm site, the river pathway will be connected to the Upper Valley Reach. Undeveloped space or public land exists at Riverwalk Golf Course and Qualcomm site within this reach, offering opportunities for the river to meander, for wildlife habitat to expand, and for the creation of the river pathway and parks.

RECOMMENDATIONS

- A. Support the goals of the Mission Valley Preserve and provide additional interpretive signs on the role of the San Diego River in the Preserve.
- B. Provide a connection between the San Diego River Pathway and Presidio Park with a kiosk at Presidio Park to identify the river pathway.
- C. Explore options at the Riverwalk Golf Course to extend the river pathway along the trolley corridor as a short term measure until the Riverwalk Golf Course is redeveloped into a multi-use development. When the redevelopment occurs, provide the river pathway along the River Corridor Area.
- D. Pursue opportunities during the redevelopment of the Riverwalk Golf Course to address the hydrology of the river, to provide a public park and to orientate the new development toward the river.
- E. Coordinate with Caltrans to establish 'Green Gateways' at the intersection of State Highway 163 and Interstate 805 and the river valley by revegetating the freeway rights-of-ways with native vegetation.
- F. Create grade-separated crossings for the existing river pathway at FSDRIP at public street intersections, including Mission Center Road, Camino del Este and Qualcomm Way to complete the river pathway.



Lower Valley Reach

- G. Create trail connections to the southern canyons of the Lower Valley, including Buchanan and Normal Heights Canyon, and to the northern canyons, including Murphy and Ruffin Canyons.**
- H. Create the river pathway connection from Fenton Parkway Trolley Station to Qualcomm Way.**
- I. If the Qualcomm Stadium redevelops, include a community park, the San Diego River Park Pathway and a naturalized open space along the river.**
- J. Provide interpretive signage along the river pathway about the rich history of the Lower Valley including: the prehistoric Village of Cosoy located within and adjacent to the Riverwalk Golf Course and the Village of Nipaguay located south of the Qualcomm site; the history of the first Spanish Mission in California on Presidio Hill and how it was moved further inland; and the farming industry of the 1880's, the sand and gravel companies, construction of the highways, stadium and golf courses.**

The heavily suburbanized condition of this reach will require innovative park solutions. The San Diego River Park has the potential to combine 'natural' programs, such as the healthy hydrology of the river and its ecological habitat, with 'urban' programs, such as active and passive recreation and an accessible and urban corridor edge. By inviting activities, such as field sports, entertainment, and shopping into the river valley, the river becomes a place of varied experiences. An active river scene will reach out to a large number of user groups and introduce the river's historic and modern faces to a broad spectrum of people. The rights-of-way associated with the valley infrastructure present key opportunities to establish gateways into the valley and the city, and to extend the color and texture of native plant communities throughout the valley.

Space for the river must be sought out in the Lower Valley Reach. Open space easements and property acquisition are necessary for the San Diego River Park to become a success. The future redevelopment of Riverwalk Golf Course and Qualcomm Stadium are two opportunities for creating parks and open space.

The Lower Valley Reach should be considered as a whole, and consistent recommendations regarding new development, streets and landscape should be established. These recommendations set forth the character of the valley, moving it toward being a greener place planted with native species that concentrates higher density away from the river edges. Moving density away from the river will allow the San Diego River Park to provide for appropriate river corridor width. Where little space is available, this river corridor should aim to maintain the most adaptable species. Where greater river corridor width can be achieved, the San Diego River Park should seek to accommodate more sensitive species that have greater habitat requirements.

Key Sites of the Lower Valley Reach

A. Riverwalk Golf Course Redevelopment Site

The Levi-Cushman Specific Plan for the Riverwalk Golf Course site was approved in 1987. The plan proposes roughly 5.2 million square feet of mixed-use development including residential, retail, commercial, office and recreational uses for the approximately 200-acre site. The specific plan aligns with the San Diego River Park Master Plan in focusing development on the river, and this concept should guide future modifications to the plan. The specific plan departs from San Diego River Park goals in proposing a 12-acre island, as well as a 25-foot river planting buffer intended to “prevent direct access to habitat areas”. These recommendations should be modified to favor a naturalized river pattern as suggested in this master plan, increasing the channel width, creating meander and separating the stream flow from any existing ponds.

The San Diego River Park Pathway can serve the site by providing an amenity to people living and working within the proposed development, as well as providing pedestrian and bicycle commuter access to surrounding neighborhoods and the trolley. The trolley right-of-way may offer the opportunity for an interim trail alignment, until a more defined redevelopment concept can determine the best permanent location.

Because Riverwalk Golf Course is anticipated to redevelop in the future, there is an opportunity to establish a community- or neighborhood-scale park here. As the site redevelopment plans evolve, space for a public park should be sought adjacent to the river but buffered with naturalized open space. The nearby YMCA is expected to continue its private, fee-based recreation facility. Sefton Field will provide public recreation including ball fields and children’s play areas. Connection to these public and private facilities could be strengthened with



Illustrative River Pathway concept at Riverwalk site



View of the Riverwalk Golf Course

connected open space and a trail head near the YMCA. While the Mission Valley Community Plan calls for a neighborhood park at the YMCA site, usable land is at a premium, and environmental conflicts with the nearby wetlands are obstacles that make obtaining park acreage unlikely.

Key Points for Riverwalk Golf Course Site

- Create and maintain continuity of the river pathway for meeting park and recreation, and transportation needs in Mission Valley.
- Acquire land to establish a community/neighborhood park.
- Existing Levi-Cushman Specific Plan proposes extensive development, and further ponds and channelization of the river. Work with developer to improve river hydrology, provide pathway corridor and restore habitat.
- In the short term, the river pathway should be developed following the trolley alignment, within the trolley right-of-way. In the long term, the river pathway should be developed within the River Corridor Area.

Potential Park Elements for Riverwalk Park Site

- Active recreation and children's play area
- Location visually or conceptually connected to the river
- Character reflects the river's ecology and history
- River function incorporated into design

B. Qualcomm Stadium Site

The Qualcomm Stadium site is a long-term mixed-use redevelopment opportunity; if a new stadium is built on site or elsewhere, other opportunities could be explored. The potential redevelopment of the site also creates the opportunity for a river-oriented approach that creates significant new open space and park land on this site that could provide for active recreation. Any park land set aside should be adjacent to the river, but buffered with substantial naturalized open space that allows for a wider river channel and increased riparian habitat, transitioning to upland native vegetation at the trolley alignment.

This site is the last remaining city-owned property that is large enough to be in scale with the river valley. Careful consideration should be given to the intrinsic value of this place as a public green space and as an opportunity to create value to help finance redevelopment. A river-oriented community park could provide naturalized open space adjacent to the river, as well as recreation facilities, which complement Mission Bay Park and Mission Trails Regional Park.

Key Points for Qualcomm Stadium Site

- Critical location for meeting community-based park and recreation needs in Mission Valley.
- No acquisition costs required; land is currently owned by City of San Diego.
- Critical location for creating continuity in San Diego River Park and San Diego River Park Pathway.
- Redevelopment potential should be coordinated to achieve mixed uses oriented to the river.
- Coordinate with any Qualcomm Stadium Site redevelopment plans to integrate active and passive park uses (on the existing stadium site) with primarily natural open space located between the trolley and the river.
- Extend open space corridor to create new habitat and trail connection to Murphy Canyon.
- Acknowledge environmental constraints with adjacent land uses.



Qualcomm Stadium site is an opportunity to interact the river with open space and new development

Potential Park Elements for Qualcomm Stadium Site

- Natural riparian and upland habitat areas
- Ball fields/soccer fields
- Active sports complex
- Picnic facilities
- Amphitheater
- Boardwalk/overlooks for viewing and interpretation
- Children's Play area with "natural" character (wood, boulders, sand)
- Pedestrian linkage: park to river and Murphy Canyon
- Focus park toward river

3.2.3 CONFLUENCE REACH

Overview

The Confluence Reach is the area between Interstate 15 and Friars Road Bridge. It is where Murphy Canyon, Alvarado Canyon and two minor canyons once joined the San Diego River as it turned west to the Pacific Ocean. This place is not only a confluence of canyons and creeks, but a confluence of people and activity throughout the history of San Diego. This is where the El Camino Real met the east-west transportation route following the San Diego River near the Mission San Diego de Alcalá. This reach also acts as a gateway to multiple destinations, allowing users to access Murphy Canyon, Alvarado Canyon, Collwood Canyon, Navajo Canyon and the San Diego River Valley.

This reach is partially enclosed by a steep canyon wall on the west side and industrial uses on the east side of the river. Interstate 8 on the south further emphasizes the sense of enclosure. Within this reach, east of Interstate 15 on the south side of the river, is a large undeveloped parcel owned by the California Department of Fish and Game. This parcel was owned by Caltrans, but was deeded over to the California Department of Fish and Game during the expansion of Interstate 805. The site is a State Ecological Reserve and is open for public use during daylight hours for hiking on existing trails and fishing from certain areas.

The river is also constrained by a series of old gravel mining ponds below the Friars Road Bridge; these ponds impede the normal hydrologic activities of the river system. The narrow vegetated corridor is inadequate to separate stream flow from these ponds and the size and depth of the ponds makes filling impractical. Extensive exotic vegetation infestation is present both in the ponds (ludwigia) and in the river (arundo donax). As the river turns west, it is isolated by highway infrastructure, private property, and difficult physical terrain. The dense growth of



River is choked by invasive vegetation



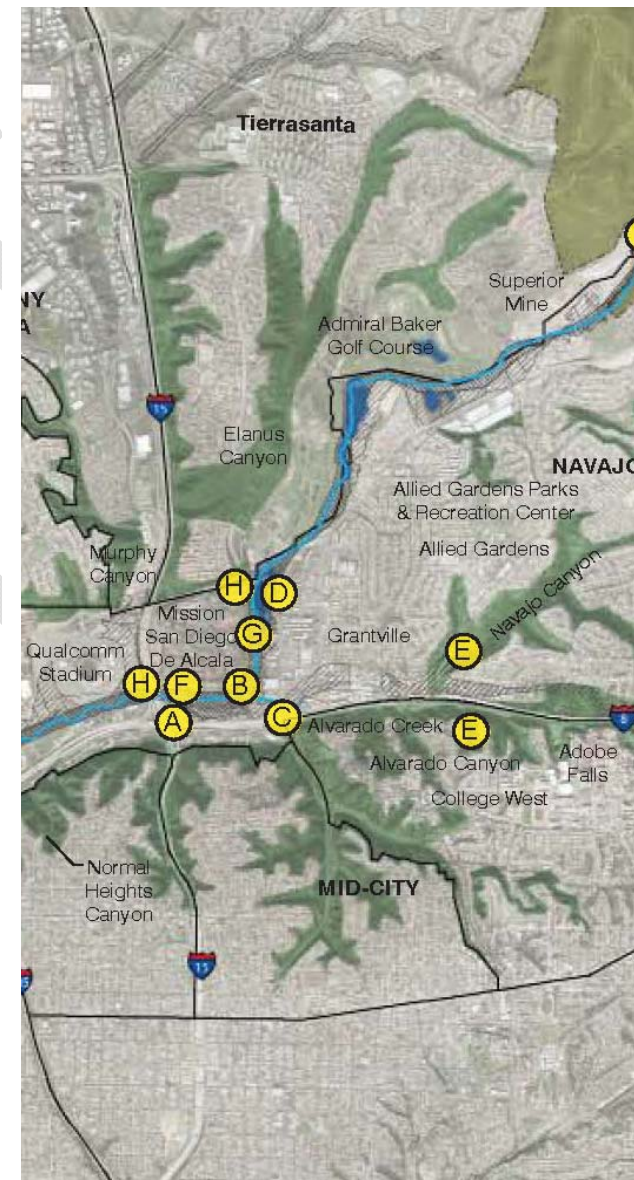
Grantville Redevelopment Master Plan should encourage new development to orient to the river

arundo further adds to the river's inaccessibility. The San Diego River Pathway has not been constructed in this reach, except for a section along the east side of the river adjacent to the Home Depot development. Access to the Mission San Diego de Alcalá from the river is along the public sidewalk along San Diego Mission Road.

The Confluence Reach contains the Grantville Redevelopment Subarea A of the Navajo Community. This area is directly adjacent to the east side of the river and has been zoned and built with industrial uses. The existing industrial uses have turned their backs on the river and used the area as a storage yard and in some cases a dumping ground. Through the Grantville Redevelopment Master Plan process, the area is proposed to be rezoned with a mix of uses and oriented to the river. The river side of the structures will feather mixed uses, plazas, public access and architecture that will step back and allow for air and sunlight to be part of the river corridor. Public parks required of the new residential use will be located adjacent to the river and will provide passive uses and connections to the river pathway.

RECOMENDATIONS

- A. Coordinate with the California Department of Fish and Game for a river pathway connection on their land along the south side of the river just east of Interstate 15.
- B. Coordinate with the landowners on the north side of the river at Rancho Mission Road for a river pathway connection to San Diego Mission Road.
- C. Improve water flow under the bridge at Mission Gorge/Fairmont Avenue for the Alvarado Creek to connect to the San Diego River. Provide a pedestrian connection under or over the bridge for access to the river pathway from Alvarado Creek.
- D. Coordinate with the Grantville Redevelopment Master Plan to identify potential land for public parks and open space through land acquisition or open space easements.
- E. Improve open space and trail connections with Alvarado Canyon and Navajo Canyon.
- F. Create a connection between the San Diego River Park Pathway and the Mission San Diego de Alcalá.
- G. Study alternatives to improve the hydrology of the river where the river corridor is narrow and constrained above the bend by deep ponds that were created by past sand and gravel mining operations. Separating the river channel from the ponds is recommended, but to achieve this recommendation acquisition of additional land is most likely necessary. In addition, it is recommended to augment the ponds by removing barriers between sections to create a larger, deeper pond.
- H. Provide interpretive signage along the river pathway about the history of the Confluence Reach including; Mission San Diego de Alcalá, the Kumeyaay village of Nipaguay at the historic mission site, the formation of the large Mexican land grants and the history of the sand and gravel mines.



Confluence Reach

The Grantville Redevelopment Master Plan (consists of three subareas A, B and C) will provide the tools to change the river landscape in the Confluence Reach and the Upper Valley reach, as described in Section 3.2.4 below (Subarea C is not adjacent to the San Diego River). By engaging owners of under-utilized property on the east edge of the river corridor, the Grantville Redevelopment Master Plan may create opportunities for the acquisition of land or establishing public access easements that could increase river corridor width. A wider river corridor would allow the river to be separated from the ponds, and offer space for passive recreation opportunities. Once the ponds are separated, a complementary action might be improving them for more intensive recreation activity, such as fishing or non-motorized boating.

If the river corridor in these areas can be expanded to the east, the San Diego River Park Pathway can be best accommodated on the east side of the river. The west side of the river is steep and narrow, and does not have possibilities for trail construction, however cantilevered construction may be considered, but could have a significant impact on the river and habitat.

There is significant potential to recreate an important wildlife habitat connection between the river valley, Murphy Canyon and Alvarado Creek. Such connections would represent a meaningful first step toward reestablishing the physiographic origins of the river valley. A trail and habitat/open space connection along Alvarado Canyon Creek would link Navajo Canyon with the river corridor, further unifying the river valley's recreational and interpretive resources.

Key Site of the Confluence Reach

A. Grantville Redevelopment Subarea A and Alvarado Creek Site

Alvarado Canyon combines with Navajo and Collwood Canyons to form the largest tributary canyon system linked to the San Diego River Valley within the City of San Diego. However, currently this connection is nearly invisible because of the scale of highway infrastructure and development that have choked the canyon throat at the confluence. Replacing culverts with bridges and gaining adequate land to reduce the channelization of Alvarado Creek will re-establish the visual continuity of the canyon system with the river valley. A green connection would also benefit the river by providing natural filtration of surface runoff, increasing riparian habitat and allowing space for trail connections to communities and open space to the east.

Key Points for the Grantville Redevelopment Subarea A & Alvarado Creek Site

- Location is critical for reconnecting San Diego River with its most significant tributary canyon, Alvarado Creek, within the City of San Diego.
- Although beyond the bounds of this master plan, “the greening” of Alvarado Creek is an important component of connecting the river valley to the canyon, providing potential space for expanding and connecting habitat and trail to the canyon, San Diego State University and upland neighborhoods.
- Coordinate with private land owners in Grantville to incorporate the river as an amenity for all redevelopment.
- Improve the creek passage under Mission Gorge Road and Fairmount Avenue to allow for improved creek flow, water quality and pedestrian safety in Grantville.
- Coordinate with Caltrans on the potential new interchange design and construction.
- Provide park land along the river as a component of Grantville Redevelopment.



Vegetation can soften the impact of concrete channels



The channelization of Alvarado Creek above the Grantville Post Office offers little wildlife habitat and allows for no groundwater recharge

Potential Park Elements for Grantville Redevelopment Subarea A and Alvarado Creek Site

- Path connection to the east side of Mission Gorge Road and Fairmount Avenue
- Wildlife habitat restoration
- Interpretation of the Grantville history
- Public parks with passive uses such as picnic areas and children's play area
- Location visually or conceptually connected to the river
- Character reflects the river's ecology and history
- River function incorporated into design

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3.2.4 UPPER VALLEY REACH

Overview

The Upper Valley Reach extends from Friars Road Bridge to the western boundary of Mission Trails Regional Park. It is a reach comprised of complex physiographic and surface conditions, with a diversity of experiences from the enclosure of steep valley walls in the east to a broad and open valley near Admiral Baker Golf Course. Heavily impacted by human activity, this reach range has the severe character of a surface mine to the exotic landscape of a golf course, bracketed alternately with dense development and sage scrub habitat.

The Upper Valley Reach is characterized by three hydrologic conditions that are deleterious to the health of the river system. First, the gravel extraction mine bordering Mission Trails Regional Park has channelized the river and disrupted habitat continuity through and across the mine site. The river is similarly channelized further downstream through the federally-owned and maintained Admiral Baker Golf Course. This element poses additional risk of surface runoff-carrying pesticides, fertilizers and other pollutants because of the lack of a buffer between the golf course and the river. Secondly, the river corridor through the mine site is infested with exotic plant species, particularly Giant Reed (*Arundo donax*). These exotics displace native riparian vegetation, causing the concomitant loss of the animal species that would typically inhabit this vegetation. Finally, the river channel is interrupted by a series of ponds that obstruct the natural sediment transport processes of the stream. A problem shared by other ponds in the system, the unnatural stream flow invites further infestation by non-native plant species; in still water conditions, the encroaching species is typically the surface plant Water Primrose (*Ludwigia* spp.).



Upper Valley looking east over Admiral Baker Golf Course



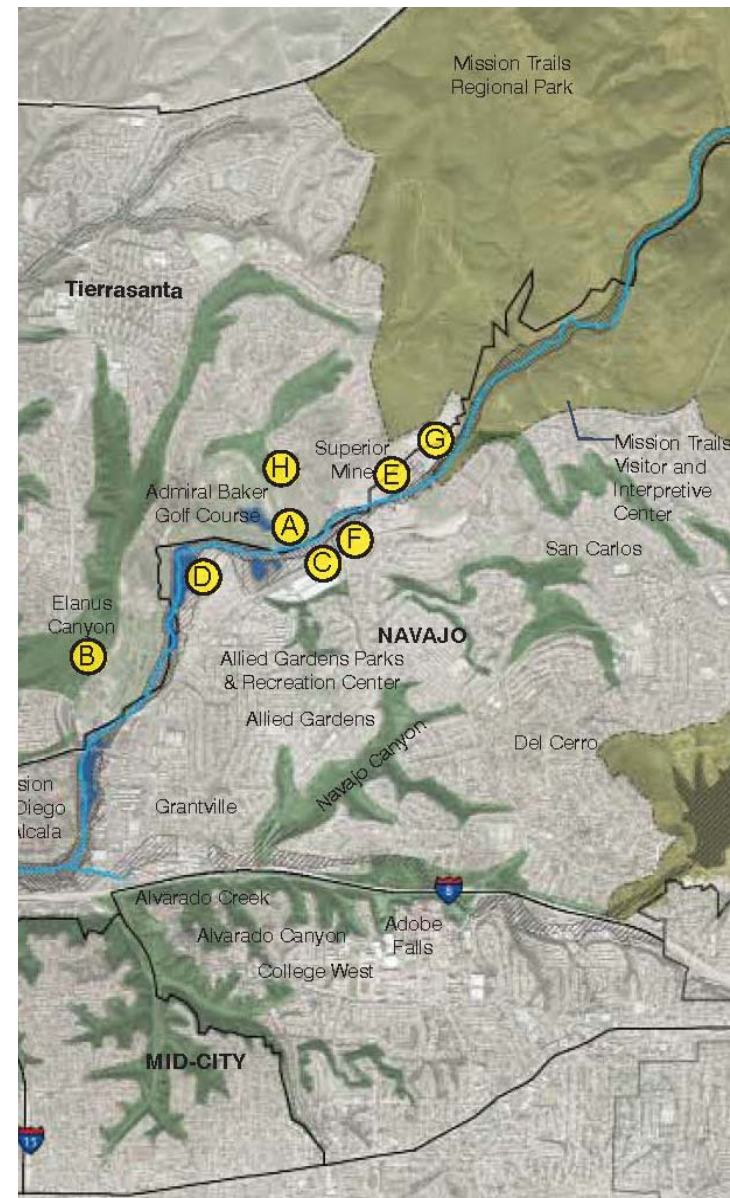
Superior Mine site

Within the Upper Valley Reach is the Grantville Subarea B of the Grantville Redevelopment Area within Navajo Community. This area is directly adjacent to the east and south side of the river and has been zoned and built with industrial uses. Similar to Grantville Subarea A, this area contains industrial uses which that have turned their backs on the river and used the area as a storage yard, and in some cases a dumping ground. Grantville Subarea B is proposed to be rezoned to a combination of multi-family residential, commercial and industrial uses that will reorient new development to the river. These new structures would feather mixed uses, plazas, public access and architecture that will step back and allow for air and sunlight to be part of the river corridor. Public parks required of the new residential use will be located adjacent to the river and will provide passive uses and connections to the river pathway.

This reach does not contain any segments of the river pathway in that the land is all privately-owned and has not redeveloped in the several decades. The city has prepared a feasibility study of the river pathway through this reach, but no future funding or action has taken place. The Archstone Project in the southern end of the reach will construct the first segment of the river pathway as part of their new residential development.

RECOMMENDATIONS

- A. Coordinate with Navy Planners to explore opportunities to modify the Admiral Baker Golf Course to create a space for the San Diego River Pathway, and to improve the relationship of the golf course with the river, such as controlling surface runoff from entering the river.
- B. Improve open space and trail connections to Elanus Canyon north of Admiral Baker Golf Course.
- C. Create public parks along the river pathway within the Grantville Redevelopment Subarea B and explore opportunities for water recreation.
- D. Separate the river channel from the old mining ponds as land is redeveloped to improve the hydrology of the river.
- E. Coordinate with Superior Mine redevelopment project to improve the hydrology of the river, establish a naturalized open space and habitat areas adequate to achieve wildlife habitat objectives and provide for the multi-use river pathway. The redevelopment should also look for areas along the river to interpret the river valley's history, including the mining operations.
- F. When Grantville Subarea B redevelops, create a multi-use river pathway connecting to Mission Trails Regional Park.
- G. Provide interpretive signage along the river pathway about the history of the Upper Valley Reach, including the Mission Dam and Flume that brought water to Mission Valley, the historic cattle ranches and the history of the sand and gravel mines.
- H. Create a trail connection from the multi-use river pathway to the Tierrasanta community. Provide an overlook and a kiosk at the higher elevation to mark the entrance to the San Diego River Park.



Upper Valley Reach

Within the Upper Valley Reach, the Grantville Redevelopment Master Plan should provide the tools to change the river landscape and create opportunities for the acquisition of land or establishing public access easements that could increase river corridor width. A wider river corridor in the Upper Valley reach would allow the river to be separated from the ponds, and offer space for passive recreation opportunities. Separating the ponds from the river will improve the flow velocities and reestablish some degree of sediment transport. Hydraulic and hydrologic studies should be conducted in conjunction with redevelopment planning to determine the physical and hydrologic characteristics and ecologic condition of each specific pond, and provide recommendations as to the feasibility, ecological value and open space benefit of separating stream flow from the pond in each location.

The San Diego River Park Pathway can be best accommodated on the east side of the river connecting the Confluence Reach to Mission Trails Regional Park. A pathway or smaller trail connection should be provided to the Tierrasanta community, linking this community to the river park. In addition, interpretive signs should be placed along the pathway to provide the history of the Old Mission Dam flume and the mining industry.

Key Sites of the Upper Valley Reach

A. Admiral Baker Golf Course Site

There are no plans to close or redevelop the golf course, but there are opportunities to integrate the golf course with the river corridor. Methods of meshing the two landscapes might include pedestrian trail connections across the golf course or the redevelopment of the golf course as a “links” or target type course with native landscaping between tees and greens. The incorporation of native plant species, creating a visual link and habitat corridor from the river corridor to the canyon north of the golf course, would be another strong step toward integrating the river and recreational environments.

Key Points for Admiral Baker Golf Course Site

- Continue on-going discussions with Navy Planners to find an appropriate level and means of integrating the golf course with the San Diego River Park.
- Expand critical habitat area and connections to the upper canyon north of the golf course.
- Create trail connections around or possibly through the golf course.
- Establish an open space habitat, and path corridors that achieve wildlife movement and habitat objectives.
- Create a trail connection from the Tierrasanta Community to the river pathway with an overlook at the upper elevation.

B. Superior Mine Site / Grantville Redevelopment Subarea B

Evolution of the landscape within the Upper Valley Reach hinges upon successfully engaging the land owners, developers and planners of Superior Mine, which is in the Grantville Redevelopment Subarea B, and adjacent lands with the river park master planning process. As these lands move toward reclamation and redevelopment, collaboration can bring about benefits to all parties. Creating adequate corridor width for habitat and trail is a minimum requirement. A broad natural river corridor through the mine site could serve as a strong organizing feature of the development. This corridor should include the river pathway, native riparian habitat, an infiltration zone for ground water recharge, and/or an improved river channel with introduced meanders. The potential to acquire portions of the site to create open space and recreation land should also be explored.

Incorporating elements of the San Diego River Park into the redevelopment of the mine site creates the potential of increasing property values, and as such, is an incentive for cooperative planning. The site's close proximity to Mission Trails Regional Park also creates an excellent opportunity to use the river and its landscape as a unique and identifying character of the site. Cooperative planning and river-sensitive design would benefit end-users by providing a visual and recreational amenity, as well as a multi-use path for commuter bicycle connections to adjacent communities and trolley service.



Improvement to Admiral Baker Golf Course can contribute to the health of the river



The reclamation and redevelopment of Superior Mine is a significant opportunity to improve the condition of the River and wildlife habitat

Key Points for the Superior Mine Site/Grantville Redevelopment Subarea B

- Coordinate with Superior Mine land owners and developers to find an appropriate balance between development, park land and open space.
- Ongoing mining operations are scheduled to continue for another 20 years. The potential for increased property values, due to the amenity created by the adjacent San Diego River Park, may encourage an earlier end to mining operations.
- Create an open space amenity that is accessible and usable by the public that provides access to the river, as well as added value to the development project. The location, size and use of this amenity will be studied as part of the specific land planning studies for the future development.

Potential Park Elements for Superior Mine Site/Grantville Redevelopment Subarea B

- Public parks with passive uses, such as picnic areas and children's play area
- Incorporation of the river pathway as an amenity of the public park
- Wildlife habitat restoration
- Location visually or conceptually connected to the river
- Character reflects the river's ecology and history
- River function incorporated into design

3.2.5 GORGE REACH

Overview

The Gorge Reach is defined primarily as the Mission Trails Regional Park but also includes privately-owned land between Mission Trails Regional Park and Mast Boulevard. The Gorge Reach offers a strong sense of enclosure reinforced by the rising walls of Fortuna Mountain and Kwaay Paay Mountain. Established in 1974, Mission Trails Regional Park has preserved the river valley's original landscape of sage scrub, chaparral, and oak woodland and riparian habitats in exceptional condition. At approximately 5,800 acres, Mission Trails Regional Park is one of the largest urban parks in the nation, and a regional destination for hiking, biking, and wildlife viewing. The rich historic layers of the San Diego River Valley are revealed in many ways within the park. The Kumeyaay, Spanish missionaries and settlers, and 19th and 20th century ranchers and farmers have all left their mark on the land now within the bounds of Mission Trails Regional Park.

The river pathway has been established from the Mission Trails Regional Park Visitor Center to the Kumeyaay Campground on Father Junipero Serra Trail. Gaps in the river pathway exist from the Superior Mine site to the visitor center and from the Kumeyaay Campground to the Mast Boulevard Staging Area. The river pathway within the Mission Trails Regional Park will be soft paved and meet the trail requirements of the Mission Trails Master Plan.



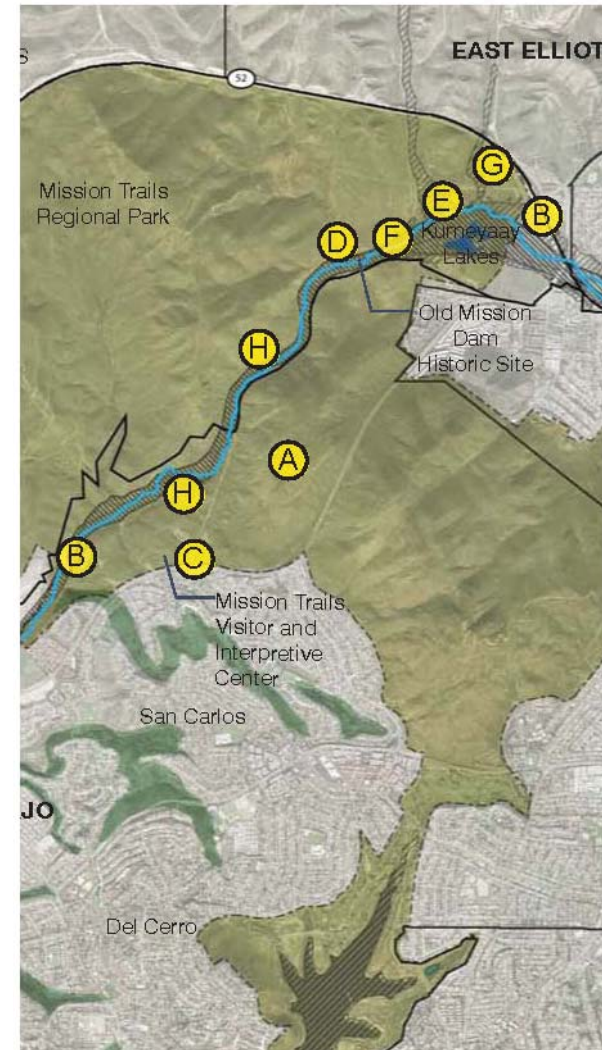
South Fortuna Mountain



Mission Trails Visitor Center Plaza

RECOMMENDATIONS

- A. Support the recommendations of the Mission Trails Regional Park Master Plan. Coordinate with the Mission Trails Regional Park to establish a continuous trail system through the park that would connect the west and east ends of the San Diego River Park Pathway. While trails are not paved in the Mission Trails Regional Park, the trail should provide for pedestrians and bicycle users.
- B. Provide a kiosk at the west and east entrances to the Mission Trails Regional Park along the San Diego River Park Pathway.
- C. Support existing and proposed interpretation of the river and history of the park at the Mission Trails Visitor Center.
- D. Support the continual maintenance of the Old Mission Dam by dredging, and provide interpretive signage on why and how this type of maintenance is provided.
- E. Study trail connections from Kumeyaay Lake campground to the Mast Boulevard Staging Area.
- F. Support the implementation of the Kumeyaay Lake Dredging and Berm Restoration to improve the hydrology of the river.
- G. Study trail connections and alignments from the Mast Boulevard Staging Area to the future river pathway below State Highway 52.
- H. Provide interpretive signage along the river pathway about the history of the Gorge Reach, including the Old Mission Dam, the historic cattle ranches, and the creation of the Mission Trails Regional Park.



Gorge Reach

The goals of the San Diego River Park Master Plan are in harmony with those of the Mission Trails Regional Park Master Plan and focus on continually improving hydrology and habitat along the length of the river and seek to further enhance and preserve the conditions already present at the park. That effort should explore the possibility of a soft surface trail linking the river corridor west of the park with Father Junipero Serra Trail and the Mission Trails Regional Park Visitor Center. Planning efforts should also consider improving the bike lanes within the Mission Gorge Road right-of-way or creating a trail, if right-of-way improvements are impossible; this trail would create internal and external connections within the park and with up-stream communities.

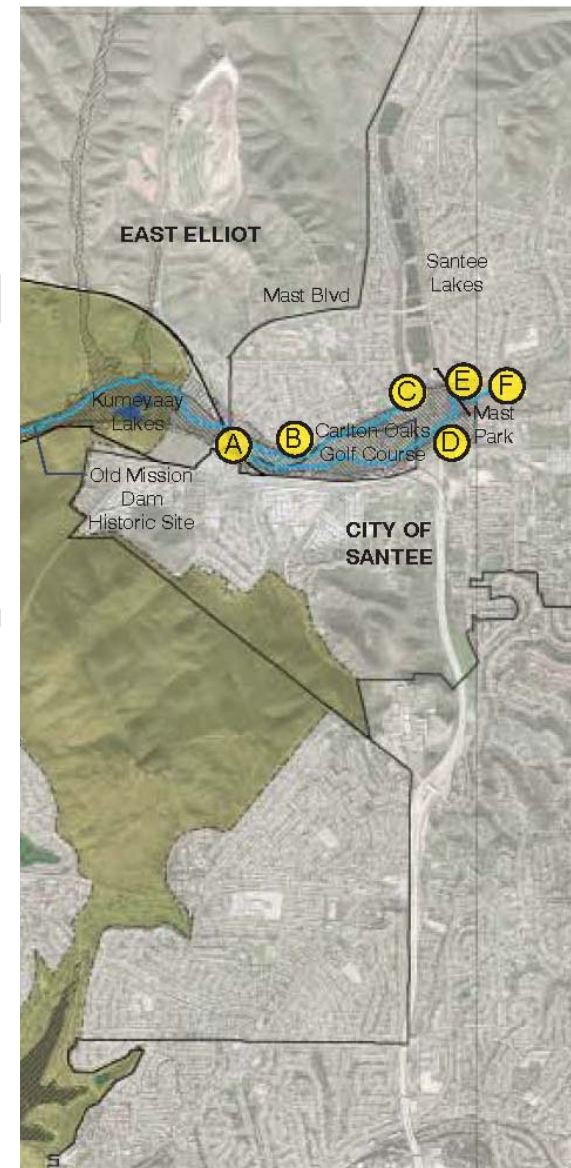
3.2.6 PLATEAU REACH

Overview

The Plateau Reach extends east from the privately-owned land adjacent to the Mission Trails Regional Park to the City of Santee. The terrain of the plateau opens up and reveals expansive views to the hills above Santee and to the distant mountains in the Cleveland National Forest. This expanse offers a sense of release from the narrow, enclosed condition of the river in the Gorge Reach. The San Diego River is negatively impacted by a variety of physical constraints. North of the river is a man-made berm that separates the river from Carlton Oaks golf course and to the south of the river is State Highway 52. Heavy infestations of Giant Reed, Brazilian Pepper, and Fountain Grass (*Pennisetum* sp.) and other exotic species degrade water and vegetative quality. Other than golf, recreational resources are minimal, but an informal pedestrian trail exists on the north side of the river on top of the dike that connects the west and east end of the golf course. This existing trail is a potential site for the river pathway that will be the eastern boundary of the San Diego River Park.

RECOMMENDATIONS

- A. Coordinate with Caltrans to identify potential alignment and methods to create the San Diego River Park Pathway under State Highway 52 and West Hills Boulevard to the Carlton Oaks Golf Course.
- B. Build the San Diego River Park Pathway along the existing berm on the north side of the river through Carlton Oaks Golf Course.
- C. Initiate a dialogue with Carlton Oaks Golf Course to explore the potential to evolve the golf course edge into a naturalized landscape buffer with native plant species and a vegetation management plan that removes exotic plants. The buffer should be designed to provide habitat, as well as a filtration of the golf course surface runoff before it goes into the river.
- D. If the golf course remains as a long term use, then consider a new concept for the golf course as a “links” course or target-type course that is substantially native vegetation.
- E. If the golf course were to change in the future, the redevelopment of the site should look at opportunities for a natural open space next to the river and include a public park as a gateway park to the City of San Diego.
- F. Provide a kiosk at the boundary of the City of San Diego and the City of Santee that identifies the eastern end of the San Diego River Park.



Plateau Reach

Key Site of the Plateau Reach

A. Carlton Oaks Golf Course Site

There is potential for the golf course to accommodate a multi-use river pathway on its southern edge near the river; this possibility should be explored when the Carlton Oaks Golf Course lease comes due for renewal. Land currently not used as golf course should be negotiated out of the lease and used for the river pathway and open space. The long term potential for this area to evolve into becoming part of the San Diego River Park should also be considered. Redesigning the golf course to be more sensitive to the hydrology of the river and creating habitat corridors are ways in which the golf course may accommodate multiple user groups.

Key Points for the Carlton Oaks Golf Course Site

- Golf course property within the city's jurisdiction is owned by City of San Diego Public Utilities Department.
- Golf Course site is a critical location for connecting the City of San Diego segment of the San Diego River Park with the City of Santee and upstream segments of the river park.
- The river corridor is channelized, narrow and constrained on the south side of the golf course. An open space corridor would provide adequate width to re-contour the river channel. An improved river channel should allow increased river length and meander, increased riparian habitat, and run-off buffering at the golf course.



Cottonwood Tree Grove and secondary stream channel on Carlton Oaks Golf Course



Invasive species removal project, vegetation management in practice



Illustrative Concept for the San Diego River Park at Carlton Oaks Golf Course